The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLIX. CHICAGO, ILLINOIS, NOVEMBER 30, 1907. No. 22.

Original Articles

FURTHER OBSERVATIONS ON OPSONINS IN NORMAL AND PATHOLOGIC SERA.*

NATHANIEL BOWDITCH POTTER, M.D.

Visiting Physician to the New York City and French Hospitals, and to the Hospital for Ruptured and Crippled Children, Instructor in Medicine (Columbia).

NEW YORK CITY.

The following observations represent a summary of most of the work which has been done under my direction since June, 1906. The more definitely planned portion, carried on in Professor Hiss' laboratory at the College of Physicians and Surgeons (Columbia) from Dec. 1, 1906, to April 30, 1907, was made possible by a grant from the Commission for Investigating Respiratory Diseases of the New York Department of Health, to whom I wish here to acknowledge my sincere thanks. The remainder comes from the Lederle Laboratories and from the laboratory of the Private Hospital Association. I have also included some of the results of Dr. Krumwiede's and my observations at the French Hospital, a detailed report of which will be published elsewhere. Drs. Bradley, Hopkins, Avery and Young have performed the details of the technic, and for five months we have had the advantage of Dr. Chas. E. North's direction, advice and skilled assistance. I take pleasure in acknowledging very helpful suggestions and assistance from Professors Prudden and Hiss, from Dr. H. H. Mason, and my fellow-worker, Dr. N. E. Ditman.

The technic employed was essentially that of Wright. Its accuracy depends on several factors, all of which vary within rather wide limits.

VARIATIONS IN SERA.

Figure 1 illustrates the variations in the opsonic indices to staphylococci and to tubercle bacilli in three healthy adults whose sera furnished the laboratory normals at the Lederle Laboratories during February, March and April. Similar variations occurred in the opsonic indices of supposedly normal sera to these two germs throughout our studies and to colon bacilli, streptococci and to pneumococci. Of the two double curves for each sera the upper pictures the worker's indices estimated to the average of his own and two or more other sera, the lower that of the worker's indices figured on the other's sera alone. The lower curve naturally exhibits the more striking fluctuations. There is noticeably less variation in the curves of the tubercle bacillus than in those of the staphylococcus, as has been already noted by Wright and others.

We attempted to determine whether any variations in the counts of duplicate sera could be attributed to the method of obtaining the samples of blood. We compared sera in triplicate obtained by squeezing the finger vigorously, with sera in triplicate obtained from a large, deep prick furnishing free drops of blood without any squeezing. There was quite as much variation in the phagocytic counts of the triplicate specimens as in the two groups. We, therefore, concluded that such manipulation is not a fruitful source of error and certainly can not be measured by the Wright method. Another experiment devised to determine whether any differences could be detected in specimens of blood taken from different parts of the body, ear, finger, toe, etc., furnished a similar result.

To determine differences dependent on transportation, we sent duplicate sera through the mail and had them returned to the laboratory. They were then compared with other duplicates which had been left in the laboratory at the room temperature and still others kept in the icebox. The last showed the highest phagocytic count; the sera sent farthest the next, those left at room temperature the lowest.

We compared many times 1 to 10 specimens of duplicate sera to staphylococci, streptococci, tubercle bacilli and other organisms in order to determine the percentage of variation in the phagocytic counts and corresponding indices. The variations were not less than 30 per cent., and the counts for colon and tubercle bacilli and for streptococci varied even more strikingly than for staphylococci. By making use of the relative percentage of phagocyting and non-phagocyting cells (following Simon) we were unable to narrow materially the variations. This percentage in general corresponded to the opsonic indices.

VARIATIONS IN CORPUSCLES.

On several occasions I have called attention to my belief that the source of the leucocytes which form the corpuscular cream was responsible for marked variations in the opsonic indices. We found that the number of corpuscles at different layers of the cream varied, as shown by the figures in Table 1 on page 1817.

Despite these variations in the numbers of polymorphonuclears at different layers of the cream, Table 2 and the chart in Figure 2 make it evident that such variations influence the phagocytic counts but little, provided that the leucocytes are obtained from the same source.

With tubercle bacilli a cream of half thickness phagocytes but 10 to 20 per cent. more than the usual cream. If, however, the leucocytes are obtained from different sources the variations are more striking.

In Figure 3 and Table 3 the leucocytes taken February 26 from J. G., a patient with pulmonary tuberculosis and chorioiditis, ingested from 40 to 75 per cent. less bacilli than those from a supposedly normal individual. This is graphically represented by the curve at the left (Fig. 3, Q). The curve at the right (Fig.

* Presented to the Association of American Physicians, at Washington, May 8, 1907.

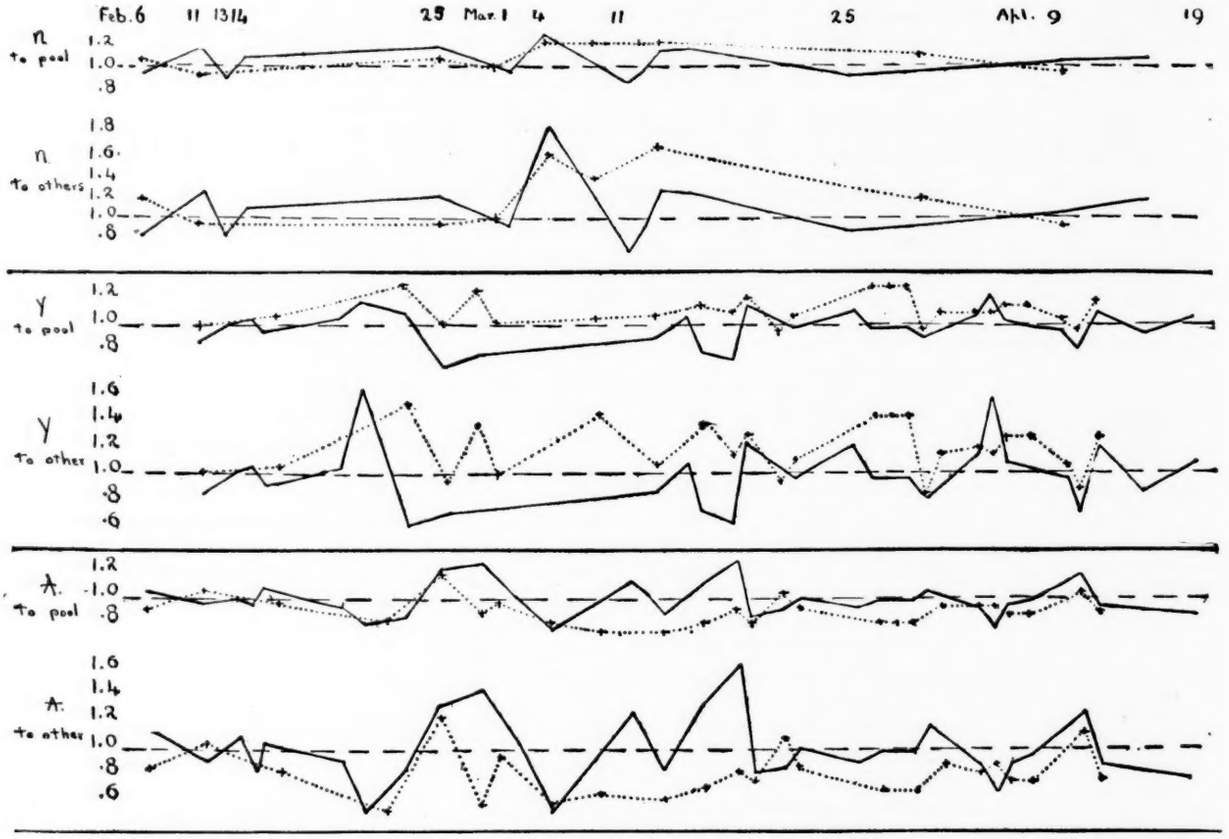


Fig. 1.—Opsonic indices of three normal sera. Solid line represents variations to staphylococcus; dotted lines, variations to tubercle bacillus.

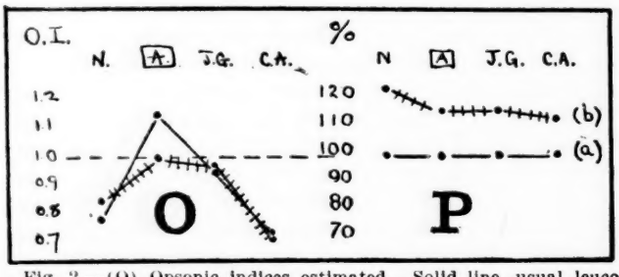


Fig. 2.—(O) Opsonic indices estimated. Solid line, usual leucocytic cream (21,800 polynuclears to 1 c.mm.); crossed line, usual cream diluted with equal volume of red corpuscular remains at bottom of centrifuge tube (9,900 polynuclears to 1 c.mm.). (P) Ratio in per cent. of phagocytosis by normal leucocytes: (a) usual cream; (b) diluted cream.

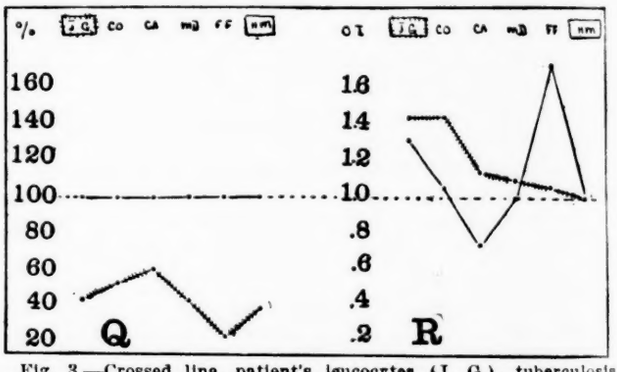


Fig. 3.—Crossed line, patient's leucocytes (J. G.), tuberculosis of lungs and chorioiditis. Solid line, normal leucocytes (H. M.). (Q) Ratio in per cent. of patient's leucocytes as compared with normal leucocytes. (R) Tuberculo-opsonic indices obtained with two sets of leucocytes.

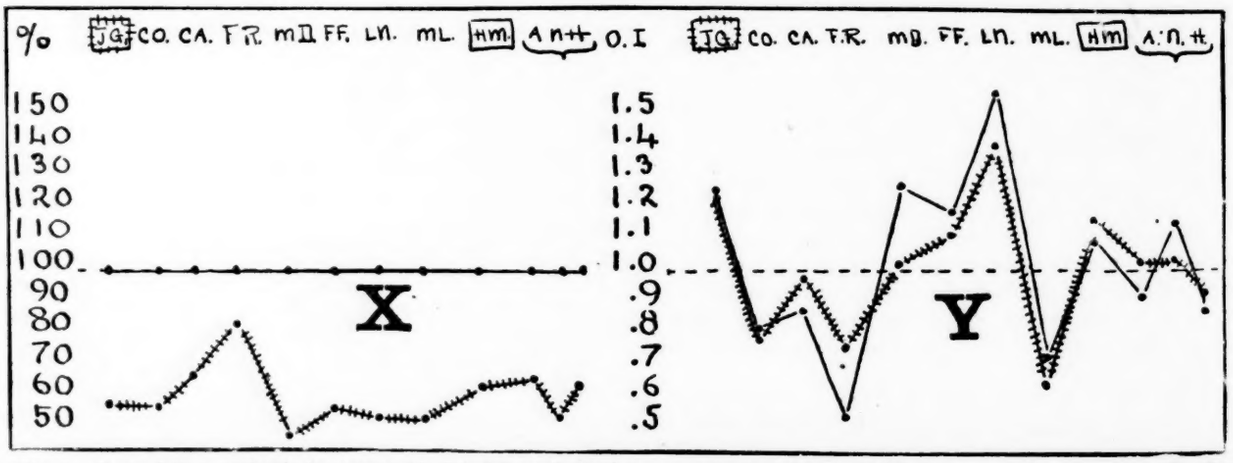


Fig. 4.—Crossed line, patient's leucocytes (J. G.), tuberculosis of lungs and chorioiditis. Solid line, normal leucocytes (H. M.). (X) Ratio in per cent. of patient's leucocytes as compared with normal leucocytes. (Y) Tuberculo-opsonic indices obtained with two sets of leucocytes.

TABLE 1.—FOUR LEUCOCYTIC CREAM COUNTS.

Date.	Before Titration.			In the Middle of Titration.			Directly After Titration.		
	Total Leuc. in 1 c.mm.	Per cent. of Polys.	Total Polys. in 1 c.mm.	Total Leuc. in 1 c.mm.	Per cent. of Polys.	Total Polys. in 1 c.mm.	Total Leuc. in 1 c.mm.	Per cent. of Polys.	Total Polys. in 1 c.mm.
Mar. 22.	30,000	. . .	. . .	20,000	. . .	. . .	. . .	. . .	. . .
Mar. 23.	30,000	74.4	22,320	32,000	87.5	28,000	24,975	65.0	16,233
Mar. 25.	34,000	. . .	. . .	26,520	. . .	. . .	. . .	. . .	. . .
Apr. 26.	35,000	. . .	. . .	30,200	. . .	. . .	31,000	. . .	. . .

TABLE 2.

Serum.	Date.	Phagocytic Index.		Ratio in percentage	Opsonic Index.	
		Whole Cream, 21,800.	Diluted Cream, 9,900.		Whole Cream.	Diluted Cream.
N.—Peritoneal Tb. . .	Apr. 24.	129	160	1.23	0.79	0.85
A.—Normal	Apr. 25	162	189	1.16	1.15	1.00
J. G.—Tb. of lungs and chorioid.	Apr. 23.	155	182	1.17	0.95	0.96
C. A.—Tb. chorioid and glands.	Apr. 25.	121	138	1.14	0.74	0.71

TABLE 3.

Patient Whose Leucocytes Were Used. Diagnosis. Condition.	Date.	Phagocytic Count; 200 Cells.		Ratio in percentage.	Opsonic Index.		Serum.	No. of *Leucocytes* in 1 c.mm. of Leucocytic Cream.		Inverse ratio in percentage.	Organism.	White Count.
		Normal Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.			
		H. H. M.	J. G.		H. H. M.	J. G.		H H. M.	J. G.			
J. G.—Tb. of lungs and chorioiditis.	Feb. 26.	406	174	0.43	1.32	1.45	J. G.—Tb. of lungs and chorioiditis.	52,000	85,000	0.61	Tubercle bacilli.	12,300
		325	173	0.52	1.06	1.45	C. O.—Tb. Chorioid.					
		227	138	0.60	0.74	1.15	C. A.—Tb. chorioid and glands.					
		310	136	0.43	1.00	1.10	M. D.—Tb. hip and sinus.					
		541	127	0.24	1.75	1.06	F. F.—Tb. hip and sinus.					
		307	120	0.39	1.00	1.00	Normal: H. H. M	. . . . .	. . . . .	. . .	. . . . .	4,600

TABLE 4.

Name of Patient Whose Leucocytes Were Used. Diagnosis Condition.	Date.	Phagocytic Count; 100 Cells.		Ratio in percentage.	Opsonic Index.		Serum.	No. of Polynuclears in 1 c.mm. of Leucocytic Cream.		Inverse ratio in percentage.	Organism.
		Normal Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.		
		H. H. M.	J. G.		H. H. M.	J. G.		H. H. M	J. G.		
J. G.—Tb. of lungs and chorioiditis.	Apr. 18.	151	90	0.59	1.26	1.25	J. G.—Tb. of lungs and chorioiditis.	25,280	30,855	0.81	Tubercle bacilli.
		97	57	0.58	0.81	0.79	C. O.—Tb. chorioiditis.				
		105	71	0.67	0.88	0.98	C. A.—Tb. Chorioiditis and glands.				
		66	55	0.83	0.55	0.76	F. R.—Tb. lungs.				
		152	73	0.48	1.27	1.01	M. D.—Tb. hip and sinus.				
		142	80	0.56	1.19	1.11	F. F.—Tb. hip and sinus.				
		186	101	0.54	1.56	1.40	L. N.—Tb. hip and sinus.				
		88	47	0.53	0.73	0.65	M. L.—Sinus.				
		132	84	0.63	1.10	1.16	H. H. M.—Normal.				
		112	75	0.66	0.94	1.04	Normals: A.				
		139	75	0.53	1.17	1.04	N.				
		106	68	0.64	0.89	0.94	H.				
		119	72	0.60	1.00	1.00	Average normals.				

TABLE 5.

Patient Whose Leucocytes Were Used. Diagnosis. Condition.	Date.	Phagocytic Count; 50 Cells.		Ratio in percentage.	Opsonic Index.		Serum.
		Normal Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.	
		N. D.	M.		N. D.	M.	
M.—Chronic acne staph. Treated with *x*-ray.	Jan. 25.	175	119	0.68	1.43	1.00	M.—Chronic acne staph
		122	117	0.95	1.00	1.00	W.—Normal.
		N.	M.		N.	M.	
M.—Chronic acne staph. Treated with *x*-ray.	Jan. 25.	169	119	0.70	1.43	1.00	M.—Chronic acne staph.
		118	117	0.99	1.00	1.00	W.—Normal.
		N. D.	N.		N. D.	N.	
N. D.—Normal	Jan. 25.	175	169	0.96	1.43	1.43	M.—Chronic acne staph.
N.—Normal	. . . . .	122	118	0.96	1.00	1.00	W.—Normal.

3, R) exhibits quite striking variations in the tuberculo-opsonic index depending on which leucocytes were employed.

In Figure 4 and Table 4 the experiment was repeated nearly two months later, during which time the patient had decidedly improved under inoculations of tuberculin. There was still between 18 to 52 per cent. less phagocytic power of the patient's leucocytes. The opsonic indices (Fig. 4, Y), though not identical, varied but little.

treatment. In the chart in Figure 6 the same patient's leucocytes are compared three weeks later with leucocytes from a case of impetigo and with leucocytes from a supposedly normal individual. In the chart in Figure 7 they are compared with leucocytes from the same normal two weeks later. Figure 8 represents the same conditions as Figure 6, but nearly two months later.

Dr. Krumwiede and I, while studying streptococcus and pneumococcus infections at the French Hospital, noted similar variations. Although the number of our

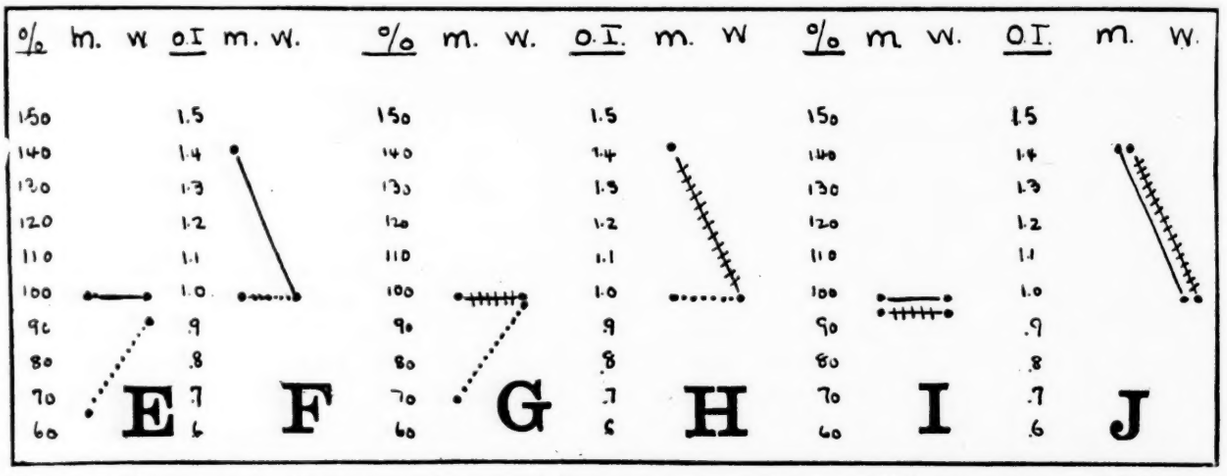


Fig. 5.—Solid lines, normal (N. D.) leucocytes; crossed lines, normal (N.) leucocytes; dotted lines, patient's (M.) leucocytes. (E) Ratio in per cent. of patient's leucocytes as compared with normal leucocytes. (F) Staphylo-opsonic indices obtained from two sets of leucocytes. (G) Ratio in per cent. of patient's leucocytes as compared with normal leucocytes. (H) Staphylo-opsonic indices obtained from two sets of leucocytes. (I) Ratio in per cent. of leucocytes from one normal individual as compared with leucocytes from another normal. (J) Staphylo-opsonic indices obtained from two sets of leucocytes.

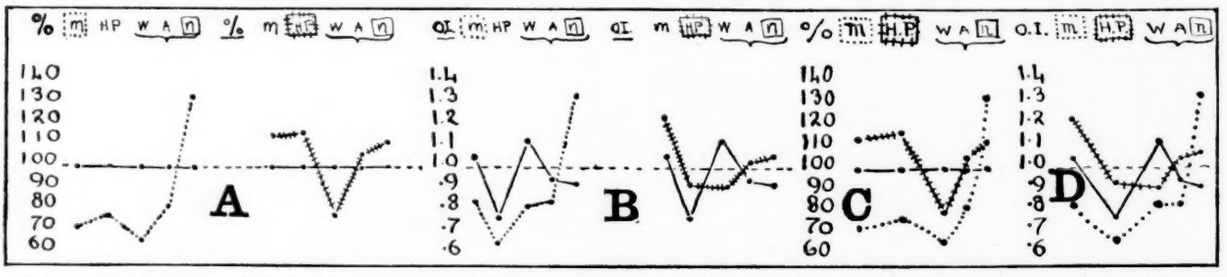


Fig. 6.—Solid lines, normal (N.) leucocytes; dotted lines, patient's (M.) leucocytes; crossed lines, patient's (H. P.) leucocytes, thirty days after inoculation. (A) Dotted line, ratio in per cent. of patient's leucocytes as compared with normal leucocytes. Patient with chronic acne. Crossed line, ratio in per cent. of patient's leucocytes as compared with normal leucocytes. Patient with chronic acne, after inoculation. (B) Staphylo-opsonic indices obtained with two sets of leucocytes. (C) Ratio in per cent. of two patients' leucocytes as compared with normal leucocytes. (D) Staphylo-opsonic indices obtained with two sets of leucocytes.

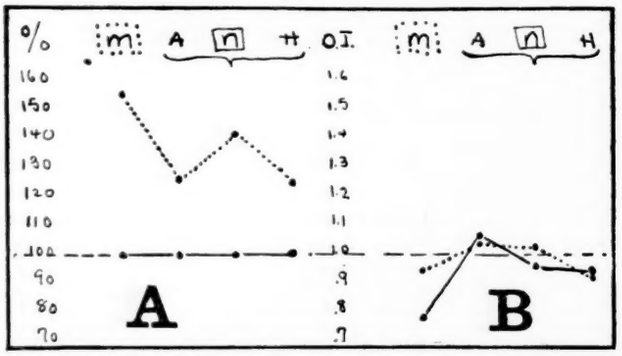


Fig. 7.—Dotted lines, patient's (M.) leucocytes much improved; solid lines, normal (N.) leucocytes. (A) Ratio in per cent. of patient's leucocytes as compared with normal leucocytes. (B) Staphylo-opsonic indices obtained with two sets of leucocytes.

A similar result is shown by the next four charts and tables. In the chart in Figure 5 two sets of supposedly normal leucocytes are compared with the leucocytes from a patient with chronic acne who had just begun *x*-ray

observations was very limited, we found in general that during the height of the infection the phagocytic power of the patient's corpuscles, as compared with that of corpuscles from supposedly normal individuals, was diminished and more noticeably so than the opsonic index of the serum, that during recovery this phagocytic power rose well above the normal and again distanced the opsonic index in the serum, and that during convalescence the phagocytic power of the leucocytes and the opsonic index gradually fell to normal or just below.[1]

These tests, though suggestive, do not, of course, merit positive conclusions. The method is not sufficiently accurate, the observations are too few, the leucocytes were not washed carefully enough and the creams were not accurately balanced. It is, however, fair to state that the opsonic indices of sera vary with the source of the leucocytes and sometimes even when the sources are two or more apparently normal individuals and that the leucocytes from patients the subjects of bacterial in-

1. Jour. Infectious Dis., November, 1907.

TABLE 6.

Patient Whose Leucocytes Were Used. Diagnosis. Condition.	Date.	Phagocytic Count; 50 Cells.			Ratio in percentage.		Opsonic Index.			Serum.	Organism.
		Normal Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.	Normal Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.		
		N.	M.	H. P.	M.	H. P.	N.	M.	H. P.		
M.—Chronic acne staph. Treated with *x*-ray.	Feb. 15.	154	112	177	0.72	1.15	1.06	0.85	1.24	M.—Chronic acne staph	Staph. aureus. (P.)
		113	89	131	0.78	1.16	0.78	0.67	0.92	H. P —Impetigo with paronychia of toes and fingers; staph. aureus.	
										Normals:	
		162	108	129	0.67	0.79	1.12	0.82	0.91	W.	
		138	112	146	0.81	1.06	0.95	0.85	1.03	A.	
		135	177	150	1.31	1.11	0.93	1.34	1.06	N.	
		145	132	142	0.92	0.97	1.00	1.00	1.00	Average normals.	

TABLE 7.

Patient Whose Leucocytes Were Used. Diagnosis. Condition.	Date.	Phagocytic Count; 100 Cells.		Ratio in percentage.	Opsonic Index.		Serum.	Organism.
		Normal Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.		
		N.	M.		N.	M.		
M.—Chronic acne staph. Treated with *x*-ray. Much improved.	Mar. 1.	241	378	1.56	0.79	0.95	M.—Chronic acne staph.	Staph. M.
							Normals:	
		329	420	1.27	1.08	1.05	A.	
		292	414	1.41	0.96	1.03	N.	
		290	367	1.26	0.95	0.92	H.	
		303	400	1.32	1.00	1.00	Average normals.	

TABLE 8.

Patient Whose Leucocytes Were Used. Diagnosis. Condition.	Date.	Phagocytic Count: 50 Cells.			Ratio in percentage		Opsonic Index.			Serum.	No. of Polynuclears in 1 c.mm of Leucocytic Cream.			Inverse Ratio in percentage.		Organism.
		Normal Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.	Normal Leucocytes	Patient's Leucocytes.	Patient's Leucocytes.		Normal Leucocytes.	Patient's Leucocytes.	Patient's Leucocytes.			
		N.	M.	H. P.	N.	H. P.	N	M.	H. P.		N.	M.	H. P.	M.	H. P.	
M.—Chronic acne staph. Treated with *x*-rays.	Apr. 22.	199	165	207	0.82	1.04	1.28	1.11	1.25	M.—Chr. acne staph.	16,940	17,160	35,600	0.98	0.47	Staph. aureus (P.)
		142	148	237	1.04	1.66	0.90	1.00	1.43	M. S.—Chr. acne and comedones.						
		185	159	270	0.85	1.45	1.19	1.07	1.63	H. P.—Impetigo with paronychia of toes and fingers. Staph. aureus.						
										Normals:						
		161	160	140	0.99	0.86	1.03	1.08	0.84	W.						
		162	131	171	0.80	1.05	1.04	0.88	1.03	A.						
		143	153	186	1.06	1.30	0.91	1.03	1.12	N.						
		155	148	165	0.94	1.06	1.00	1.00	1.00	Average normals.						

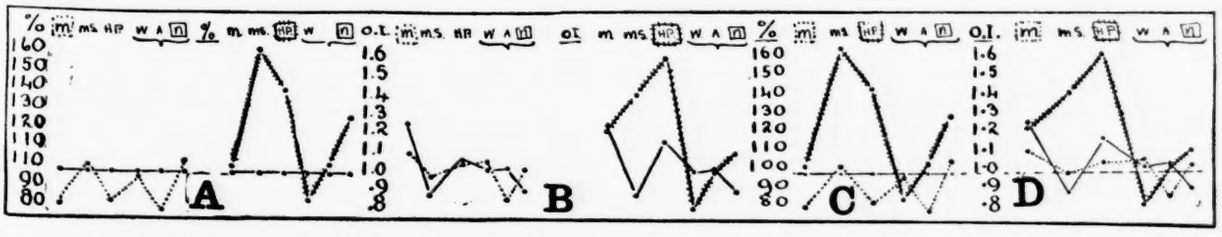


Fig. 8.—Dotted lines, patient's (M.) leucocytes, cured; crossed lines, patient's (H. P.) leucocytes, acne; solid lines, normal (N.) leucocytes. (A) Ratio in per cent. of patient's leucocytes as compared with normal leucocytes. Patient cured (M.). Patient, chronic acne, (H. P.) seven days after inoculation. (B) Staphylo-opsonic indices obtained with two sets of leucocytes. (C) Ratio in per cent. of two patients' leucocytes as compared with normal leucocytes. (D) Staphylo-opsonic indices obtained with two sets of leucocytes.

fections are not always equal phagocytic agents with leucocytes from normal individuals.

VARIATIONS IN THE BACTERIAL EMULSIONS.

As a result of a number of tests of staphylococcus suspensions by the plate method, Dr. North was unable to measure the variations which probably occurred, although great differences in the gross appearance of the plates were evident.

VARIATIONS IN COUNTING.

Ninety-two slides of staphylococcus preparations were recounted by the same observer. The average variation between the two counts was 9.8 per cent., with a maximum of 34.1 per cent. and with a minimum of identical counts. Fifty-seven slides were recounted by another observer with an average variation between the two counts of 12.3 per cent., with a maximum of 36 per cent. and with a minimum of 0.3 per cent. Twenty-four slides of tubercle bacilli were recounted by the same observer, with an average variation between the two counts of 14.4 per cent., with a maximum of 110 per cent. and with a minimum of 1.3 per cent. This last very striking variation is explained by a considerable difficulty in properly preparing the tubercle emulsion which occurred while this test was being made. Twelve such slides were recounted by two observers, with an average variation of 24 per cent., with a maximum of 51 per cent. and with a minimum of identical counts.

CASES INVESTIGATED AND TREATED.

Among the staphylococcus infections which we have investigated and treated those of most interest are two cases of chronic acne (facial) markedly improved by a very few inoculations of a stock staphylococcus aureus vaccine in doses of 200 millions. In one case three, in the other four doses were employed. Neither case was severe, but each improved rapidly. Both received some local treatment in addition to the vaccine. The index in one was above normal at the first inoculation and remained above normal. In the other it was only slightly below normal and rose after inoculation. A third very obstinate case, "M," from whom several of our leucocyte tests have been taken, has been cured by *x*-ray treatment at the hands of Dr. Bronson. A fourth quite as obstinate a case of longer duration is worth reporting in more detail:

CASE 1.—*History.*—Miss G. R. W., aged 40, referred to me by Dr. F. C. Shattuck, of Boston. Patient had had blood poisoning fifteen years previously, following an operation for an ovarian tumor. She was under care of dermatologists for eight or ten years. Had nervous prostration one year previously. Complained of persistent chronic acne of face. Papules appeared in crops, especially during and directly after menstruation. They would become pustules and then dry up. Some last several days, are surrounded with area of marked hyperemia and are associated with considerable pain and throbbing.

Examination.—This showed a patient pale, poorly nourished and thin. Her face was covered with pigmented scars; there was considerable induration of the skin, a few small fresh papules with a hyperemic area about them. One of these was opened and a culture made. *Staphylococcus albus* was found.

The chart in Figure 9 shows the opsonic determinations, the inoculations, dosage, menstrual periods and the few essential changes in her condition. It was impossible to obtain any benefit at first. I am indebted to Dr. W. H. Smith for the chart and record from February 1. He was kind enough to conduct her treatment and keep me in touch with her progress.

The points of interest in her case are the pronounced fall in the opsonic index during the menstruation which coincided well with the aggravation of her acne and her marked physical and nervous depression at that time. With doses at short intervals, aided by a few *x*-ray exposures, she improved. Dr. Smith wrote, April 30: "The most marked change is the loss of induration, the skin no longer feels as though many small shot were imbedded therein. For the last few weeks what few spots have appeared have been superficial, leaving no scar. Patient says she feels no discomfort with them as she did with the ones which were deeper, i. e., throbbing, burning and tenderness when the face was touched." Another even more obstinate staphylococcus infection was in the case of impetigo described as follows:

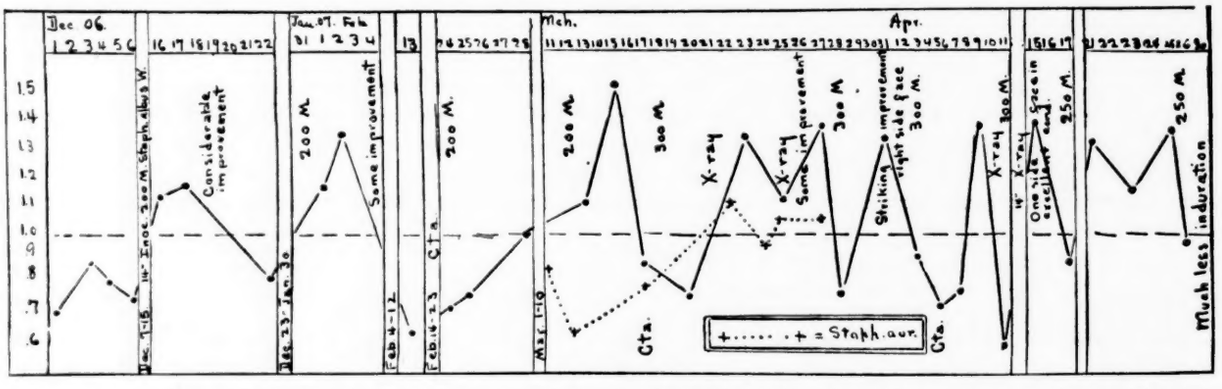


Fig. 9.—Case 1, Miss G. R. W., chronic facial acne, showing opsonic determinations, inoculations, doses, menstrual periods (Cta.) and essential changes in condition.

CASE 2.—*History.*—Miss H. L. P., aged 31. Consulted Dr. E. B. Bronson, from whose notes I quote the following, on May 30, 1906, for a skin affection, principally of face, which had persisted for ten years without any improvement: "It began soon after an attack of varicella. Two or three years later, and at times since, she had attacks of inflammation about toe-nails, especially the big toe, with considerable soreness. Once it was severe enough to necessitate repeated incisions. Patient was pallid and delicate. On her face were a dozen or more round, flat, eroded and slightly crusted lesions, varying in size from that of a pin head to that of a large pea. There was little or no subjective irritation and no obvious discharge. Surface of lesion resembled that left at the site of a recent vesicle or impetigo pustule. Though never observed during a definite pustular stage, the affection was regarded as of essentially the same nature. Each lesion lasted from ten to fourteen days usually. New ones were continually forming. Scattered over the face there were numerous smooth, flat, white spots of an atrophic or cicatricial character. Sev-

eral of the toes on both feet showed a suppurative inflammation with scanty purulent discharge from beneath the wall of the nail, with redness, swelling and soreness. Fairly uniform improvement under local (chiefly antiseptic) treatment. At one time the lesions on the face had all disappeared and the toes seemed almost in normal condition, though there was still some redness and some remaining infiltration of the nail-wall in several places. Evidently the morbid tendency had not been overcome." The patient was referred to me October 2 for investigation and treatment. Patient's home duties were so urgent and her home so distant from the city that it was impossible for her to be seen at any regular intervals. Her opsonic curve is shown in Figure 10. I was unable to produce much more than a transitory improvement in the condition of her face; the slight improvement was not sufficient to outweigh the effect of such inimical factors as fatigue, or cold weather, and for the toes much walking and the wearing of rubbers. The intervals of inoculation were not frequent enough either to retain the improvement, to keep up the opsonic index, or to prevent the marked drop of the latter and the corresponding aggravation of the lesions during menstruation.

One case of furunculosis in a young woman with a high opsonic index was cured by general tonic treatment and catharsis and without inoculation. With especial attention to her skin and improved hygienic conditions she has remained well for several months.

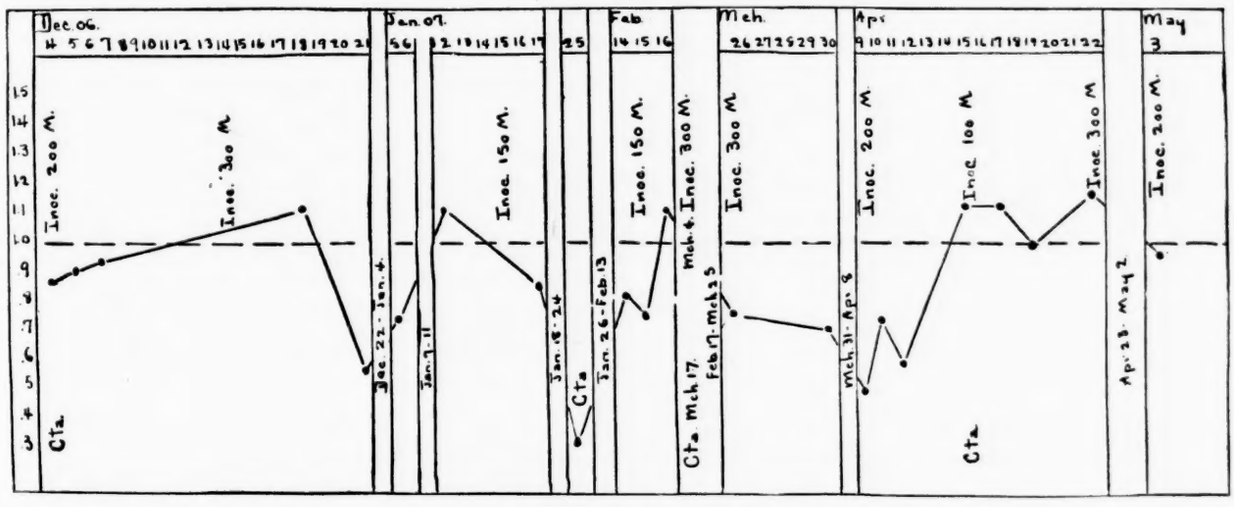


Fig. 10.—Case 2, Miss H. P. L., impetigo of face, paronychia of toes and fingers, showing opsonic determinations, etc.

Another case of furunculosis in a young adult male was cured by the internal administration of yeast, general tonics and a trip to the woods. He remained well for several months. Two small boils appeared recently, but he improved promptly on yeast and tonics so that he required no inoculation. His staphylococcus-opsonic index was below and rose above normal after the administration of yeast.

A carbuncle (*Staphylococcus aureus*) which developed on the back of my neck April 26 was treated surgically. As it seemed to resolve very slowly, I took 200 millions *Staphylococcus aureus* (stock vaccine) May 1 and 300 millions *Staphylococcus aureus* (from the lesion itself) May 3. Dr. J. B. Walker, who incised and treated the carbuncle, tells me that the progress after the inoculations was strikingly rapid. My opsonic index ranged between 0.80 and 0.90 and was not raised by inoculation.

A very extensive sloughing necrotic ulcer covering more than one-half of patient's trunk furnished four organisms, a colon bacillus, a short unknown bacillus and two staphylococci. The opsonic indices to both bacilli were above normal, that to one staphylococcus below normal. The other staphylococcus would not phagocyte when activated with normal serum, even after several attempts on Dr. North's part to modify its virulence by cultivation. During the progress of these investigations Dr. W. T. Bull adopted my suggestion of employing fresh horse serum to dress a part of the wound. It unquestionably stimulated some improvement, but was too painful and annoying to the patient. Shortly before the patient died a dose of 300 millions staphylococci were administered without effect.

Reports on four striking streptococcus infections which we have studied follow:

CASE 3.—*History.*—J. B. M., male, aged 30, entered the New York Hospital, on the service of Dr. S. W. Lambert, Oct. 22, 1906. He had septicemia, ulcerative endocarditis and double pleurisy with effusion. Blood cultures were made twice and the *Streptococcus tenuis* found. Leucocytes varied from ten to twelve thousand. Septic temperature, 99 to 103 F. Opsonic index to streptococcus from blood October 31 was 0.46. Died November 2 before vaccine was completed. Not inoculated.

CASE 4.—*History.*—M. V., female, aged 23, was seen with Dr. W. S. Bryant, April 10, 1907, at the French Hospital. She gave a history of cold for seven days, earache for three days. A right mastoid operation was performed April 5. Blood culture showed streptococcus (Dr. Krumwiede). There was extensive ostitis; very little pus. On April 6 the wound sloughed. April 7 and 8 it was dressed with horse serum and the sloughing stopped. April 10 she was inoculated with 30,000,000 streptococci (from patient A. R. in Case 5). April 11 second operation, with excision of right internal jugular, curettage of lateral sinus. April 15 she was inoculated with 60,000,000 streptococci from the same source. Patient became delirious. Metastases developed in the left shoulder and right wrist. Died April 16 from septicemia. Autopsy on April 17 showed a meningitis. Inoculation gave no appreciable effect on clinical condition nor on opsonic index, which remained normal (Fig. 11).

CASE 5.—*History.*—A. R., male, aged 20, entered my service in the French Hospital Feb. 15, 1907. No antecedent sore throat, venereal or other illness. For four or five days before admission had had pain in left shoulder, indigestion, vomiting and diarrhea. Three days before had pain in right knee and fever. Two days before had a slight nose bleed and chilly feelings.

Examination.—Patient was cyanotic, with flushed cheeks and eyes bright. Conjunctivæ were injected, the lips dry and thickly-coated tongue. There was swelling with edema above and to the inside of the left shoulder joint and over lower part

of neck. Left arm was held immobile. Attempt at motion was apparently very painful and was resisted by patient. The right knee was enlarged and tender and there was fluid in joint. Abdomen was tympanitic, spleen palpable just below costal margin and soft. Liver was slightly enlarged, edge palpable. There was nothing abnormal in rectum. No discharge from urethra. Calomel, 1/10 gr., was given every ten minutes for ten doses.

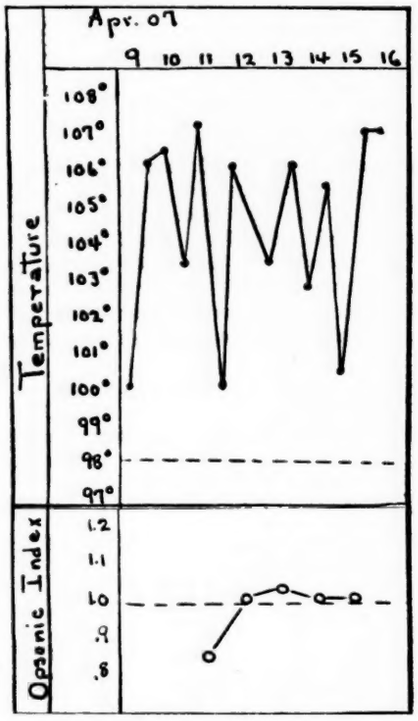


Fig. 11.—Case 4, M. V., streptococcus septicemia, meningitis; inoculated with streptococcus from Case 5 (A. R.); showing temperature chart and opsonic index.

February 17: Slight epistaxis. Epsom salts, ½ oz., and sodium salicylate, 10 gr., were given every two hours.

February 18: Tongue was dry, thickly coated and yellowish-brown. Glands were enlarged behind left sternocleidomastoid. There was marked induration about shoulder, some little redness and heat. The edema had extended behind anterior edge of trapezius and to margin of sternum. Knee was aspirated and 5 c.c. of cloudy fluid removed containing *Streptococcus pyogenes*. Patient was delirious in evening, having but restless sleep. Liquids were given. Aspirin was substituted for salicylate of soda.

February 19: Faint, soft systolic murmur was heard at base and apex. Induration was increased beneath left sternocleidomastoid. Right femoral and inguinal glands were enlarged and rather soft. Femoral glands were tender. Urine was amber, slightly cloudy, with trace of albumin, no sugar, few epithelial cells and leucocytes.

February 20: Patient showed a slight conjunctival icterus. The edema about shoulder had extended slightly and was more brawny. Tongue was cleaner. Patient was rather somnolent and was catheterized.

February 21: Patient was less somnolent and his pulse bounding. Urine was dark amber, slightly cloudy, specific gravity 1020, acid, faint trace of albumin and sediment as above. He was given Epsom salts daily and ½ oz. whisky every four hours. Blood culture showed *Streptococcus pyogenes* (Dr. Krumwiede).

February 22: He had slight nosebleed, but had slept better than any night. Was much less restless.

February 23: Aspirin was omitted. February 24 an attempt was made to determine patient's opsonic index to the streptococcus isolated from his blood. No phagocytosis occurred. February 25 patient in profuse perspiration. Vomited yellow curds. February 26 there was softening and localization behind sternocleidomastoid. Abscess was opened under cocain by Dr. Peck. Few drams of yellow pus were drained. Culture showed *Streptococcus pyogenes*. February 27 several wheals were seen on trunk. February 28 second attempt to determine patient's opsonic index was successful (Fig. 12).

March 1: Patient had free perspiration at night. Urine was dark amber, with few granular casts. The next day the abscess about shoulder was opened. Culture showed *Streptococcus pyogenes*. March 3 patient's general condition continued the same. There was involuntary micturition. Patient was put on soft diet.

March 5: Vaccine was prepared, but its use was delayed because patient's general condition had slightly improved. The urine on the following day was dark amber, sp. gr. 1014, with no casts. March 9 wheals had gradually disappeared.

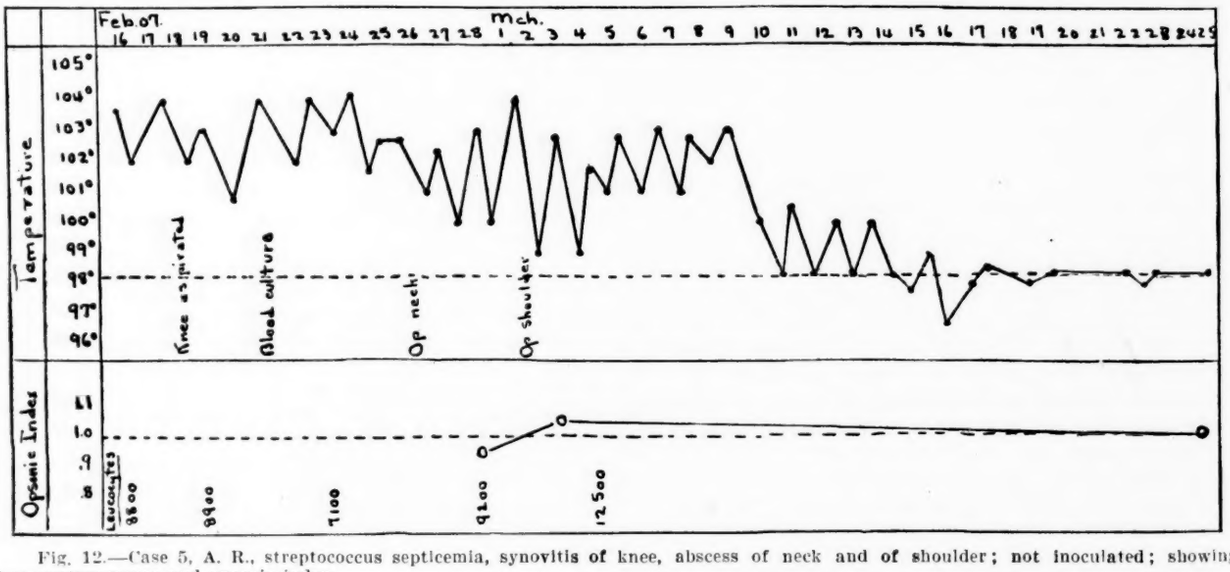


Fig. 12.—Case 5, A. R., streptococcus septicemia, synovitis of knee, abscess of neck and of shoulder; not inoculated; showing temperature curve and opsonic index.

The knee had gradually diminished in size and was but very slightly tender. March 13 the urine was dark amber, sp. gr. 1006, with no casts. March 20 urine had sp. gr. of 1016, albumin none and no casts. March 27 opening in shoulder was almost healed.

April 2: Wound was completely healed and patient was discharged, cured.

Except for the difficulty in determining the opsonic index and for a delay in the preparation of a vaccine,

this patient would have been inoculated and his subsequent recovery doubtless have been attributed to its use.

CASE 6.—*History.*—A. H., female, aged 58, was seen with Dr. A. J. Bristow and Dr. W. H. B. Pratt, Brooklyn, Feb. 25, 1907. Patient had rigors, fever, general muscular pains and intense headache. On March 1 she was well. March 4 patient had a repetition of previous attack, with more severe headache. On March 10 she had recovered. March 11 there was tenderness over left side of neck. Had a temperature of from 100 to 103 F. March 17 there was moderately circumscribed swelling of left submaxillary triangle; no fluctuation. Leucocytes numbered 15,000; polynuclears, 78 per cent. March 18 the swelling was less painful and less tender. Leucocytes numbered 12,000; polynuclears, 78 per cent.

March 20: Swelling was more diffuse and painful. March 21 leucocytes numbered 10,000; polynuclears, 75 per cent. March 23 swelling had extended to clavicle and was more tender. Leucocytes numbered 11,000; polynuclears, 83 per cent.

Operation.—Dr. Bristow, on March 23, made a long incision parallel with the anterior border of sternocleidomastoid; the tissues were much thickened and infiltrated. Deep in the submaxillary fossa a small abscess cavity was opened, the pus evacuated and drainage instituted. Culture showed *Streptococcus longus* and a bacillus.

March 24: Edge of wound was glazed and there was very little discharge. Urine was normal; daily total quantity, from 60 to 90 oz., sp. gr., from 1016 to 1020. March 26 patient had an intermittent pulse, was given caffein. March 27 had severe pain in left leg and some tenderness over internal condyle. March 28 infiltration of neck was slowly disappearing. March 30 patient had two slight convulsions limited to the face and upper extremities; eyes deflected to right; face livid. Was given sodium bromid and salicylate of strontium. There was a blowing murmur over mitral area. March 31 patient had pain, swelling, redness and tenderness in right knee and left forefinger and wrist.

April 1: Was seen by Dr. Potter. Opsonic index to streptococcus (from Case 5), 0.74. April 2 blood culture (Dr. N. E. Ditman) sterile. Patient inoculated with 25,000,000 streptococci from Case 5. April 4 wound was diminished in size one-half; joints had improved. Was reinoculated with 50,000,000 streptococci from same vaccine. April 11 wound was practically healed and convalescence uninterrupted.

The striking features of this case are the improvement of the wound and joint symptoms within forty-eight hours after the first and the sudden drop in the temperature and rapid improvement following within forty-eight hours after the second inoculation and closely corresponding to the rise in the opsonic index, as plainly shown in Chart 13. The vaccine was derived from Case 5.

We have studied a few cases of pulmonary tuberculosis and have inoculated some of the patients with tuberculin. Owing to patients' disappearance and to lack of time, our observations are incomplete. We have studied a large number of cases of joint tuberculosis, chiefly among the children in the wards at the Hospital for Ruptured and Crippled Children. We have investigated frequently, over a period of six months, a number of cases of obstinate sinuses. The tuberculo-opsonic indices have been nearly persistently high and, if we follow the principles advanced by Wright, the patients require no tuberculin.

Delay in the preparation of the vaccines and an outbreak of scarlet fever prevent judgment from being passed as yet on our attempts at the inoculation of the germs obtained from the discharging sinuses. It is interesting to note that from one sinus a colon bacillus, from another a pneumococcus and from a third a diphtheria bacillus were cultivated by Dr. North.

GLANDULAR AND OCULAR TUBERCULOSIS.

We have studied three cases of glandular tuberculosis. One patient, a boy operated on for a recurrent involvement of the right cervical glands. An extensive dissection of the left side had been made a year previous. His tuberculo-opsonic index before and after the operation was well above normal. As yet he has not been inoculated. Another, an adult male with an involvement of the left cervical glands following a tonsillar infection and an acute pleuropulmonary involvement, exhibited a persistently high tuberculo-opsonic index. After absolute rest in the open air and extra feeding, his index approached normal, and he was inoculated with minute doses of tuberculin. An intercurrent pneumonia (pneumococcus) interrupted treatment. He is now progressing satisfactorily, the dosage of tuberculin is being very guardedly increased and his index is always well above normal. The third, an adult male with a very chronic process in the neck, has been away for the winter and we have not yet begun his tuberculin inoculations. His index has been normal or just below.

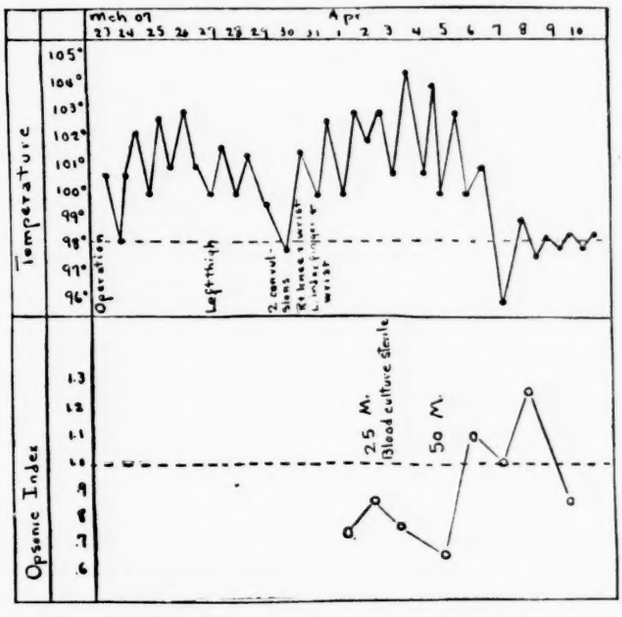


Fig. 13.—Case 6, Mrs. A. H., streptococcus abscess in neck, with multiple arthritis; inoculated with streptococcus from Case 5 (A. R.), showing temperature curve and opsonic index.

We have followed three cases of probable ocular tuberculosis.[2] In one of these were suggestive signs of an old bacillary process at one apex, and in another there was definite evidence of active pulmonary tuberculosis. Tuberculin has been employed in all three in such dosage and at such intervals as seemed most likely to avoid a marked local ocular reaction. The tuberculo-opsonic indices have been estimated as frequently as possible in the hope of gaining some information as to the value of opsonic determinations for guidance in inoculation. The curves (Fig. 14) indicate the doses employed and the tuberculo-opsonic indices. As far as the observations have extended, the determination of the opsonic indices has been of very little assistance in regulating the dosage or the intervals of inoculation.

2. Reported in full by Drs. Coleman W. Cutler and Alexander Duane at the American Ophthalmological Association at Washington, May 10, 1907.

CONCLUSIONS.

Conclusions to be drawn from these studies:

1. Wright's method of estimating the opsonic indices in bacterial infections is hardly accurate enough to compensate for the amount of time involved in its application. There is a general parallelism, however, between the opsonic indices and the clinical course of most cases, so that these determinations should be made when the results of inoculation can not be controlled by the ordinary clinical methods of observation, when there are several organisms present and when the patient does not improve under the usual method of inoculation.

2. Its variations depend on (a) difference in normal sera, so that even with counts averaged from two, three or more, supposedly normal, sera, it is not possible to prevent variations of 10 to 30 per cent.; (b) differences depending on the source of the leucocytes; and (c) differences depending on counting different areas of a slide.

3. The leucocytes from patients, the subjects of bacterial infection, do not always agree in phagocytic activity with those from supposedly normal individuals. During recovery from some infections their phagocytic activity surpasses the leucocytes of supposedly normal individuals, and during convalescence their phagocytic activity falls to or below that of the normal leucocytes.

4. The inoculation of dead cultures of homologous or heterologous bacteria is helpful or curative in many local infections. Some cases of septicemia recover without inoculation, so that we must be guarded in attributing the cure of such cases solely or partly to bacterial inoculations. Some general and some local infections are too severe to be helped by such inoculations. Some very chronic and obstinate local infections may be helped by inoculations, but it is probable that their response can be easily exhausted by too large, and perhaps by too frequent, doses, and it is very doubtful if such advanced cases can be completely cured by inoculation.

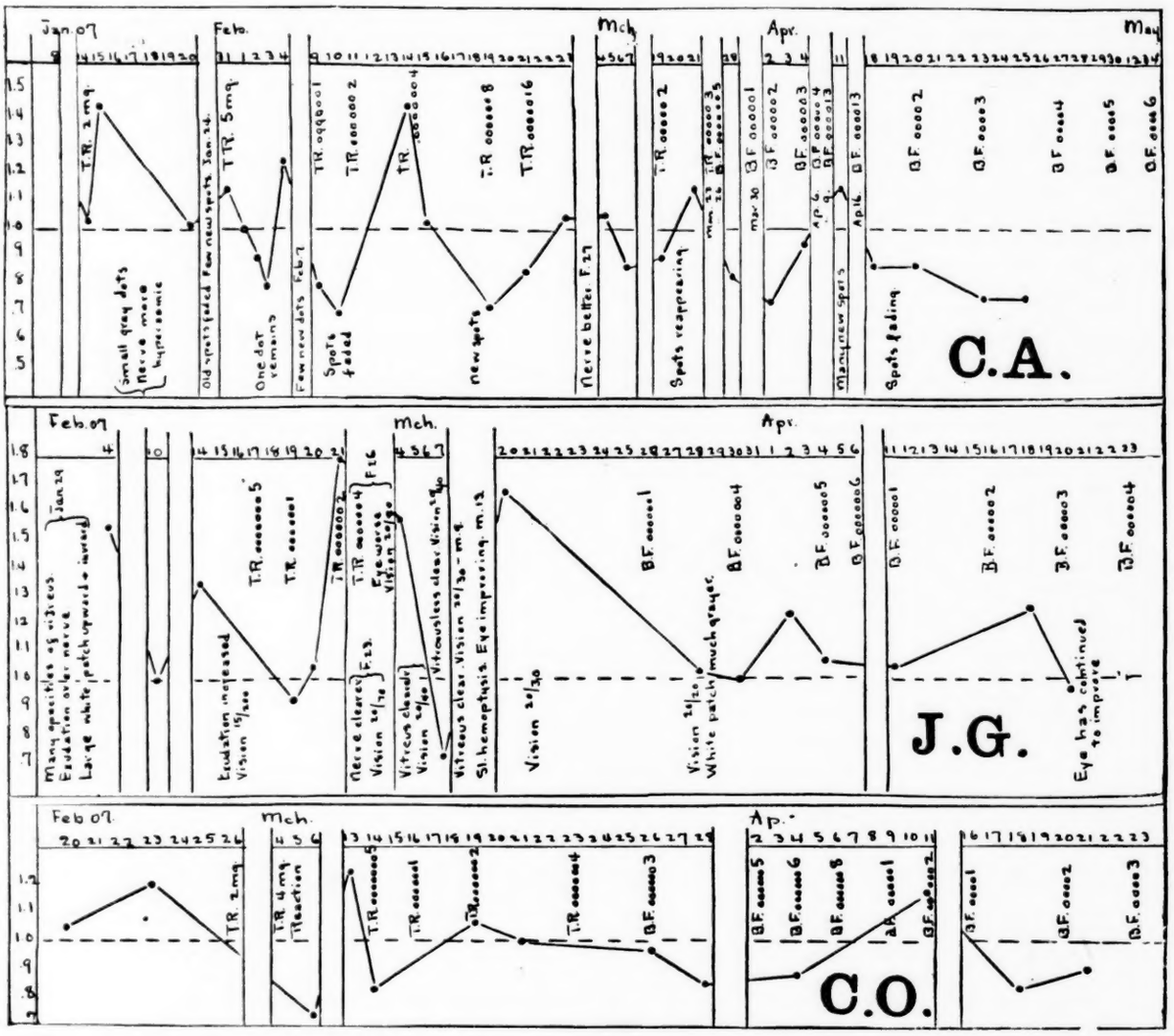


Fig. 14.—Three cases of probable ocular tuberculosis: C. A., probable ocular tuberculosis; J. G., chorioiditis and pulmonary tuberculosis; C. O., possible ocular tuberculosis. C. O.: March 7, white flocculent mass in temporal fundus; March 9, small white spots first noted, vision improved and field larger; April 8, field of vision still larger; April 26, field of vision smaller than on March 9. White spots noted March 9 disappeared in a few days. Since then repeated crops of small white spots have come and gone every few days.

Football Benefits Not Limited to Players.—A Cornell student became so excited over Saturday's game with Princeton that he broke his leg. It is pleasant to see that the boasted physical benefits of football are beginning to be enjoyed by the mass of the students as well as by the limited number in the squad.—*Evening Sun*, New York, October 28.

ACUTE UNILATERAL ASCENDING PARALYSIS.*

CARL D. CAMP, M. D.

Instructor in Neuropathology and in Electrotherapeutics in the University of Pennsylvania; Instructor in Neurology in the Philadelphia Polyclinic Hospital and College of Graduates in Medicine; Assistant Neurologist to the Philadelphia General Hospital.

PHILADELPHIA.

The case of ascending unilateral paralysis, which it is my privilege to report by the kind permission of Dr. James Hendrie Lloyd, merits attention because of the rarity of such symptoms when not caused by gross cerebral disease, and also because of the difficulties in making a satisfactory diagnosis of the pathologic condition present:

Patient.—B. D., a laborer, aged 60, was admitted to the nervous wards of the Philadelphia General Hospital in the service of Dr. James Hendrie Lloyd on April 6, 1905, complaining of weakness in his left leg.

History.—His family history was negative. He denied having had venereal diseases, but he had been drinking to excess for fifteen years. On his admission to the hospital, he said that about three weeks before he had fallen and injured several ribs. He was then taken to the Pennsylvania Hospital, where he remained until April 1. After he left there he began to drink heavily and on April 4, he first noticed while walking on the street that his left leg was weak.

Examination.—On admission to hospital April 6, it was noted that the man's face was flushed and that there was a continuous fine tremor of each hand (alcoholic). There was no paralysis of the face, tongue or ocular muscles. The left arm and hand were slightly weaker than the right, but no more so than is natural in persons who are right-handed. The biceps and triceps jerks were increased on both sides, but were slightly more so on the left. Sensation to touch and pin point was normal in each arm. The right leg had normal power and sensation. The knee jerk was exaggerated on the right side. The Achilles jerk was present and about normal, and there was no ankle clonus or Babinski reflex. The left leg was almost completely paralyzed, there being but slight power of movement at the hip joint and none elsewhere. The knee jerk on the left side was exaggerated and tapping the left patellar tendon caused a contraction of the right adductor longus muscle; a crossed reflex. Tapping the right patellar tendon caused a contraction of the left adductor. Sensation in the legs appeared to be about normal. The man's mental condition was that of mild confusion, but there was no aphasia.

Course of the Disease.—From this time on there gradually developed an increasing weakness in the left upper extremity, until at the next examination, April 12, a feeble clasp of the hand was the only movement possible in the left arm. At this time it was noted that the left arm and hand were cold, stiff and apparently in a beginning contracture. The biceps and triceps jerks were exaggerated. The right arm had normal motion, sensation and reflexes. In the left leg the former spastic paralysis had now become a total flaccid paralysis. Tapping the left patellar tendon caused a contraction of the right adductor longus muscle, but no contraction of the left quadriceps femoris. The Achilles jerk was not obtained and plantar stimulation caused no movement of the toes. The right leg had normal power and reflexes, except that tapping the right patellar tendon now caused no movement of the left adductor longus. Sensation was apparently normal in each leg, though his mental confusion interfered with accurate tests. There was no marked tenderness over the nerve trunks. There were newly formed blebs on the left heel, left side of the chest and the ulnar side of the left forearm. On April 14 he was stuporous, but would answer questions if they were repeated. In showing his teeth the right corner of the mouth was drawn back further than the left and he had some difficulty in swallowing. The grasp of the left hand was *nil*. In other respects he was in the same condition as at the previous examination, two days before. On April 15 he became comatose and he died April 16. The examination of the urine was negative throughout the course of his illness.

Autopsy.—At necropsy held about 18 hours after death, there were found chronic pleurisy, congestion of the lungs, cardiac dilatation and hypertrophy and arteriosclerosis. The kidneys were slightly large and pale; the capsule stripped readily. The cortex was 5 mm. thick and pale. There was a small calculus in the right kidney. The cerebral pia mater had a milky appearance, but stripped readily from the cortex. The convolutions were rather simple in type and about normal. Horizontal sections of the cerebrum, cerebral peduncles, the pons Varolii, medulla oblongata and the cerebellum showed no gross lesions. The spinal cord appeared normal on macroscope examination. Microscopic section of the paracentral lobules showed the pia slightly thickened, but with no cellular infiltration. The blood vessels were moderately sclerosed. Sections stained by thionin modification of the Nissl method showed the Betz cells in a fairly normal condition. A few of the cells showed moderate chromatolytic change. There were no differences in sections from the two sides of the brain. Sections taken from the ascending frontal convolution on the right side at about the location of the arm area appeared normal when stained with the hematum-acid fuchsin stain and the thionin stain. Sections of the optic chiasm showed a slight round cell infiltration of the pia. The blood vessels within the chiasm were moderately sclerosed, but there was no round cell infiltration about them. The Weigert hematoxylin stain showed no degeneration in the chiasm or in sections of the optic nerve cut transversely. Sections of the cerebral peduncles, the upper and lower levels in the pons, and the upper and lower levels in the medulla show a round cell infiltration of the pia and about some of the blood vessels. The pyramidal tracts stained well by the Weigert hematoxylin stain. The nerve cells of the seventh and twelfth cranial nerve nuclei appeared normal when stained by the thionin stain.

Sections from the Cord.—Sections from the spinal cord in the cervical region showed no thickening of the pia nor cellular infiltration. The small blood vessels in the posterior columns of the spinal cord were especially prominent, due to the thickening of their walls. Sections from this region showed no degeneration when stained by the Weigert hematoxylin or by the Marchi osmic acid stain. The thionin stain showed the nerve cells to be normal. Section from the eighth, ninth, tenth and twelfth thoracic segments showed the same conditions as those from the cervical region. In the lumbar region the pia was slightly thickened and there was slight infiltration about some of the blood vessels within the spinal cord. The blood vessels were moderately sclerosed. Sections stained by the Weigert hematoxylin stain and the Marchi osmic acid stain showed no degeneration. In sections stained by the thionin stain there appeared distinct degenerative change in some of the cells of the left anterior horn, but the cells in the right anterior horn were normal. There was a total of 785 cells in the anterior horns in the sections studied from the lumbar region. Unfortunately none of the nerves or muscles was removed at the necropsy and therefore were not examined.

The aspect of the subject to which I would direct attention is the nature and site of the pathologic lesion which would produce such a syndrome, and particularly the site of the lesion which produced the symptoms noted in this case with a discussion of some debatable points that arise in connection with such a diagnosis.

Dr. Chas. K. Mills,[1] in a recent paper on unilateral ascending and unilateral descending paralysis, insists that these forms of paralyses are clinical entities, although due to various causes. His cases were all chronic, the extension of the paralysis up or down requiring a long period of time. The acuteness of development of

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

† From the Department of Neurology and the Laboratory of Neuropathology of the University of Pennsylvania.

1. The Journal A. M. A., Nov. 17, 1906, p. 1638.

these symptoms in the case here reported disposed at once of the diagnosis of a brain tumor, which by developing in the leg area and growing downward to the arm and face areas might cause an ascending hemiplegia. In cases of arteriosclerosis affecting the blood vessels of the cerebral cortex there may occur areas of softening, often of only microscopic size, such as in cases reported by J. H. W. Rhein.[2] A succession of such areas of softening might give rise to an ascending hemiplegia, but in such a case the symptoms would rather advance by steps than by a regular gradual progression. A single lesion of hemorrhage or softening in the internal capsule, cerebral peduncles or pons Varolii, even though it gradually enlarged and progressively involved the fibers to the leg, arm and face, would hardly in any case require twelve days for its complete development. The necropsy did not show such a lesion. A focal lesion in the medulla lower down or in the spinal cord would not explain the involvement of the face which occurred in this case. Generalized disease of the spinal cord, such as syphilis, is invoked to explain one of Dr. Mill's cases. The patient whose case is here reported denied having had syphilis. The moderate round cell infiltration of the pia in the lumbar region of the spinal cord and on the base of the brain would suggest syphilis. However, these lesions, possibly syphilitic, were very slight, not nearly so marked as those found in many cases, at necropsy, in which there had been no symptoms during life, and they were strictly bilateral, so that if we consider them as the cause of the symptoms we should still be compelled to seek an explanation for the localization of the symptoms to the left half of the body. It has been suggested to me that the symptoms in this case may have been due to the action of a toxic substance on the cerebral cortex such as occurs in the paralysis due to uremia. The paralysis at no time showed any signs of temporary improvement, as these cases of toxic origin often do; there was at no time any sign of cortical irritation, such as convulsions, and there was no accompanying sign of kidney disease or any history which would lead one to suspect the presence of any other toxic substance. The necropsy also was negative as regards a source for toxemia, and histologic examination of the cortex showed no degeneration of the Betz cell such as was described by Dr. Weisenberg[3] as occurring in uremic hemiplegia. The only unilateral lesion in the brain or spinal cord which was discovered after a careful and thorough investigation, and which bore any apparent relation to the symptoms, was the degeneration of the nerve cells in the left anterior horn in the lumbar region. The type of this degeneration corresponded closely to that described by Marinesco as occurring after lesion of the peripheral nerve, i. e., central chromatolysis with displacement of the nucleus to the periphery of the cell. This suggests the consideration of the peripheral nerves as the site of the lesion in this case.

Mills, in speaking of unilateral ascending paralysis, says: "A paralysis of peripheral origin, of ascending or descending type is rare, but of course may occur. Such a case would either depend on a degenerative neuritis or on a succession of peripheral lesions." It is unfortunate that a pathologic examination of the peripheral nerves in this case was not made, since a probable diagnosis is multiple motor neuritis of unilateral ascending type. I rule out ascending paralysis of the Landry type because of the primary exaggeration of the reflexes, and also because Landry's paralysis is more invariably symmetrical than is multiple neuritis.

This is not the first case of unilateral multiple neuritis on record. There is at least one other, which was reported by Eskridge[4] as a case of simulating hemiplegia. In his case, as in the one here reported, there was a history of trauma to one side of the body in an excessively alcoholic subject. It was his opinion that it was the trauma, from which there was an extensive bruising, that was the cause of the unilaterality of the symptoms. In the history of the patient which I report it was noted that the man fell and broke several ribs a short time before the onset of his symptoms. It might reasonably be inferred that he was extensively bruised by this fall.

It was noted that the left leg was at first spastic, the leg was stiff; this in a short time gave way to a flaccid paralysis. The involvement of the arm attained its fullest degree only a few days before death and was spastic at this time. This, it seems to me, would be the natural course of events where the symptoms were due to a lesion which at first irritated and later destroyed a motor nerve. It is well in accord with experimental evidence to say that irritation of a nerve trunk, whether by chemical or physical means, produces contraction of the muscles supplied by that nerve. The continuous irritation of disease products applied to the nerve produces a continuous contraction of the muscle which was noted as an apparent contracture of the arm in this case.

The vasomotor and trophic disturbances, as shown by the formation of blebs on the left foot, on the ulnar side of the left forearm, and on the left side of the chest, speak in favor of a lesion of the peripheral neuron.

The question whether or not exaggeration of the knee jerks or other deep reflexes ever occurs in the early stages of multiple neuritis has been debated for many years, but, though it is difficult to find a satisfactory explanation for their occurrence, that they do occur is attested by such well-known observers as Babinski, Strümpell, Dejerine, Spiller, and many others. Oppenheim in his text-book says that the tendon reflexes may be exaggerated in the early stages of multiple neuritis, and Eskridge makes the interesting statement: "If after diphtheria the knee jerks are exaggerated, symptoms of neuritis may be expected to follow." The explanation for the exaggeration of the reflex may be that the irritation of the nerve brings about a condition of partial contraction in the muscle, increasing the tonicity, and so exaggerating the effect of the impulse of the reflex.

An interesting observation which was noted in the course of the routine neurologic examination of the patient was the difference in the effect produced by tapping the patellar tendon of each side. On the left side, the paralyzed side, after the paralysis had become a flaccid one, tapping the patellar tendon caused no knee jerk, but did cause a contraction of the abductor of the thigh on the opposite side. Applying the general theory of the reflex action of this observation, it is evident that the sensory part of the reflex arc remained intact or the impulse could not have reached the opposite side of the spinal cord. As the loss of knee jerk indicated a lesion in some part of the reflex arc it must have been in the motor neuron on the left side or in its sensorio-motor synapse. Tapping the right patellar tendon (the nonparalyzed side) gave a normal knee jerk, showing the integrity of the reflex arc on that side, but produced no

2. Am. Jour. Med. Sci., May, 1906.
3. Jour. of Nerv. and Mental Dis., July, 1904.
4. Medical News, Philadelphia., Vol. 67 and 484, 1895.

adductor reflex on the other side. A result which might have been anticipated if the foregoing conclusion is correct. This dissociation of the homolateral from the contralateral reflex was present in another case which clinically resembled the one reported in this paper, except that the symptoms were descending. I have not found this dissociation present in cases of hemiplegia, syringomyelia, amyotrophic lateral sclerosis nor transverse myelitis.

1531 Christian Street.

SYMPTOM-COMPLEX OF A SERIES OF INTESTINAL CASES WITH PATHOLOGIC FINDINGS.*

THOMAS D. PARKE, M.D.
BIRMINGHAM, ALA.

During the years from 1903 to 1906 a number of cases came under observation which till that time had not been encountered and a description of which has not been found in the text-books, nor in current literature so far as I have investigated.

The first two cases seen by me occurred in the practice of Dr. Morris of Birmingham, and so unusual were the symptoms, so prompt the fatal ending, that poisoning was suspected, though no known poison would seem to explain all the symptoms. Other cases occurring soon after, we were forced to the conclusion that we had encountered a symptom-complex new in our experience. Conversation with our older practitioners shed no light, as they had seen or had recognized no such cases.

Eighteen cases have come under my personal charge, or in consultation. Of these twelve patients died, six recovered. The youngest was 6 months old, the oldest 20 months. All were, or had been, breast raised. Fourteen were nursing their mothers at the time of illness. All but two were vigorous children, previously healthy.

The symptoms that marked the cases were rapid abdominal breathing (air hunger), fast pulse, cessation of bowel movement, enlargement of liver and lowered temperature, restlessness and expirating moan.

As a rule, the attack was preceded by mucous or bloody mucous action with slight temperature for a few days, then the supervention of the typical type of breathing. From the time of inception of symptoms there has been no question in the minds of parents, nurse or doctor of seriousness of condition. The restlessness, the expirating moan, the labored breathing marked at once a seriously ill child.

Tympany has been marked in some of the cases. Vomiting has existed in a good proportion. In only one case of the series has there been any loose bowel action without purgatives. The temperature has become subnormal at some time after the attack began in most of the cases. In some it has risen high at some period.

The two things that have been found in every case, save one mild one that did not show enlargement, have been the type of breathing and the enlargement of the liver. The rapidity of enlargement has been a phenomenon that has excited interest. In twelve hours a liver not palpable below the ribs will be distinctly felt and, in forty hours, in some cases be two inches below. This has been demonstrated to physicians in a number of instances—a liver shown not to be enlarged at first visit and next day demonstrated to be an inch and more below the rib.

The urine has been normal in quantity in all the cases, save the V. baby, in which vomiting was so persistent as to preclude absorption of water. Albumin in small quantity was found, in two cases, in urine taken from bladder postmortem. In the other cases it was not obtained. Jaundice was absent in all the cases.

A leucocyte count of 25,000 was made in one case. Of the patients that have recovered, every one, with the exception of Baby B., whose liver did not appreciably enlarge, has shown prolonged convalescence, loose bowels and a very tardy restoration of the digestive functions.

The cases have occurred in various sections of our city and in the suburbs and in families which provide their children hygienic surroundings. Of the series eight have been brought to postmortem.

The postmortem findings of organs, other than liver and mucosa of intestine, have been negligible. The intestinal mucosa in some of the examined cases showed hyperemia. In others very little or no appreciable hyperemia. The liver has been enlarged to greater or less extent in every one and sections from all examined show fatty degeneration. In some of the specimens there are fields in which no normal cells can be seen and very few nuclei. In others there are areas of fatty degeneration in the fields. In every one the fatty degeneration exists. The gall bladder in every case contained a dark green, ropy bile. This same dark green material passed in the actions when the bowels were moved by purgatives during the course of the typical symptoms.

Unsuccessful attempts have been made to work up the bacteriology, due to the unpreparedness of our local bacteriologists, and inoculated tubes from the intestines and different organs have been sent to eastern laboratories without result.

What the etiologic factor is I am unable to state. It would seem, but only seem, reasonable to conclude that a toxin is generated in the intestinal tract which produces the fatty degeneration of the liver. How the air hunger is produced, whether directly by the toxins breaking down the natural barrier afforded by the healthy liver and thus entering the circulation, or whether indirectly by secondary products, is a matter for speculation.

If it be the Shiga bacillus that generates the toxin, as might be suggested from the mucous or bloody mucous actions commonly preceding the onset of symptoms, then the natural inquiry arises, why does not the Shiga bacillus generally cause these cases, for we are constantly encountering the severest types of ileocolitis in our spring and summer seasons.

I feel certain that such cases have not been confined to our locality, but that they have been occurring elsewhere in the south. From a report that has reached me I have every reason to conclude that a baby in another southern city died with the identical type of symptoms. It is with a view to calling attention to these cases that now, after observing them for four seasons, I have brought them to the attention of this section.

The treatment pursued has been eliminative. Hypodermoclysis has been used in some of the cases. Camphor has been given by mouth, where the stomach was not revolting too much. Alcohol has not been given, as it seems the liver already had burdens enough to carry. Food has been withdrawn and the patients recovering have been kept on water till the symptoms seemed to warrant a return to food.

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The impression gained from the series has been that when the dose of poison has been sufficiently large medication is useless. In the cases where the dosage has not been lethal, elimination and symptomatic medication only have been employed. The effort has been rather to give the natural recuperative forces of the child fair play in the fight with the enemy. In this type, as in the severe cases of ileocolitis usually met with, the conclusion has been forced on me that, as in typhoid, the problem is to keep the patient alive till the natural forces can get the better of the disease.

All the patients with the exception of one, Baby P., in 1906, have gone on to recovery after the type of breathing has ceased. In this case recovery was predicted on cessation of this symptom, but it reappeared after some twenty-four hours and the child was dead in some thirty hours more.

It is known to you that, in cases of ileocolitis coming to postmortem after a protracted course, a fatty degeneration of the liver is frequently encountered.

The monograph on "Diarrheal Diseases of Infancy," issued in 1904 by the Rockefeller Institute, speaks of fatty degeneration of the liver occurring in dysenteric cases in these words: "The liver is fatty in about the same percentage as in other infantile conditions" (Howland); but none of the many histories given correspond with the cases above cited. None of these show the symptom-complex nor the rapid enlargement of the liver.

Unsupported, I would not care to subject myself to criticism in reporting this series of observations however certain I might be of my own opinion, but it so happens that cases have been seen by and with a number of our local physicians. A report to our local society was made in 1903 giving symptoms-complex and pathologic findings, and as a result of that report I have been called into consultation by our physicians who recognize the description. Moreover, three of these fatal cases have occurred in the children of as many of our physicians.

Baby G. M. W., aged 6 months. Plump and strong up to thirty-six hours preceding time of consultation, when an ileocolitis, apparently of mild grade, had developed. Temperature was 100 and there had only been a few actions, showing, however, bloody mucus. The child seemed very slightly ill.

After retiring to consult, Dr. Morris, who was in charge, stated that another child had died since I was called to see the first in May and that it began to be ill just as had this one and the first.

On the day following, June 10, this child developed labored, rapid abdominal breathing, the bowel actions ceased, the temperature became subnormal and the child was dead in 48 hours after the labored breathing set in. The abdomen became very tympanitic before death and temperature a few hours preceding rose to 104.

A postmortem was obtained and done in a couple of hours. Other than an enlarged liver and a slightly hyperemic intestinal mucosa nothing was found to throw light on the cases.

Here were three patients dying in one house, all healthy, strong, breast-fed babies and all of healthy young parents, with symptoms unrecognized by any of the three physicians in attendance.

On July 3 I was called to see L. P., male, white, aged 20 months. The symptoms were constant vomiting and a profuse watery diarrhea containing undigested vegetables. The father was a very strong man, who stated that he believed in raising children to eat everything. There was no elevation of temperature, the pulse was strong and by withdrawing all food and giving water *ad libitum* the child, by evening seemed to be relieved. Next day he was sitting up playing in bed when seen, seeming to be relieved of his attack. His mother was instructed to withhold food till the following morning as a precautionary measure. That night—the 4th—labored breathing developed, but I was not called till the following morning. At 9 a. m. respirations 44, labored abdominal in character, temperature 99.5, abdomen distended. Child very restless. The liver was enlarged to an inch below the border of ribs. The bowels had not moved for 36 hours. Unconsciousness came on during the day and after ten hours of extreme restlessness child died the following morning at 7 o'clock. Postmortem one hour after death. Heart and lungs normal. Kidneys somewhat congested, with an infarct in one kidney, mucous membranes of intestinal tract slightly hyperemic along whole course, but no lesion present. A dark green substance was found in the small intestine, the source of which was ascertained by opening the distended gall bladder, for here was the same material—dark, thick, green bile. The liver was enlarged, firm, with yellowish streaks across surface.

Baby R., male, white, aged 11 months, breast fed, robust child, son of a physician. On July 29, 1903, bowels slightly disordered, for which mother prescribed. During the next two days the bowels were loose and greenish, but baby did not seem ill nor give any uneasiness to father. During the night of the 31st the father telephoned condition of child. Suggestions made and child seen early on August 31. Respirations 64, labored abdominal, just as one badly shocked. At each expiration a moan. Pulse 140. Temperature 99.5. Lungs normal. Liver to be felt below ribs, stools few in number, mucus and green. Extremely restless, Saturday night respirations 70, pulse 180, temperature 99.5. Sunday in desperate condition all day, unconscious, dying at 7 p. m.

Postmortem one hour after death. Stomach empty, but for a little greenish liquid. Intestines contained only dark-green thick bile. Mucous membrane apparently normal. No distension with gas. Spleen not enlarged. Lungs normal, except for congestion at base of right lower lobe. Gall bladder distended with same material as found in intestines. Liver not greatly enlarged—yellowish streaks across surface.

Baby V., male, white, aged 8 months, breast-fed, vigorous child till taken sick on Aug. 6, 1903. First seen in consultation with Dr. Sellers, August 10. History was that baby had been taken ill on the 6th with vomiting and actions from bowels of foul odor. Seen by Dr. Sellers August 7. Temperature 100, respirations 36, pulse 130. On the 8th and 9th bowels difficult to move and stomach irritable. Afternoon of 9th liver found enlarged, bowels tympanitic, vomiting at frequent intervals. Temperature 98, respirations 48, labored, pulse 150. When seen on the 10th temperature 67.5, pulse 140, respirations 44, labored. Vomiting at frequent intervals. This kept up till the morning of the 12th, when the child died at 7 a. m. The physician in charge seemed confident, from the distension, the vomiting and non-acting bowels, that peritonitis had developed, but on the strength of former cases no hesitation was felt in predicting the condition to be encountered on postmortem examination, namely, an enlarged, firm liver, distended gall bladder, filled with thick dark-green bile, normal lungs, spleen and heart and very slight macroscopic change in the intestinal mucous membrane. Such proved to be true on postmortem examination made some four hours subsequent to death.

None of these cases showed the least trace of jaundice. All had abundant flow of urine except Baby V., who vomited so persistently that water could not be taken and absorbed to supply needs of system. In none of these cases, however, was the urine obtained for examination.

On June 22, 1903, was called to see baby H. C., male, white, aged 10 months, breast fed. One action reported that afternoon, loose, with some mucus. No elevation of temperature and child did not look sick. Had been affected in April preceding with a proctitis lasting some two weeks, but never appeared ill. The mother was instructed to leave off nursing for the night and give water in place. Next morning early a telephone message came that baby was very ill. On arrival it was learned that mother had disobeyed orders by nursing him at 5 o'clock, but that he had vomited soon afterward; that

he had been restless and wakeful all night, passing several bloody mucus stools. Temperature 105. All food discontinued, water *ad libitum*, hydrotherapy to control temperature. Temperature kept in bounds during day and night by frequent baths and on following morning had fallen to 101. During course of the 24th—second day of illness—liver showed below border of ribs, temperature went subnormal, labored, abdominal breathing developed. This type of breathing continued for three days. The temperature came to normal, then gradually rose and for ten days ranged from 100 to 102. A slow, protracted convalescence.

Baby B., female, white, 7 months. Breast fed and large for age. Mother noticed bowels slightly upset on Aug. 12, 1903. First seen on 15th. Green mucus actions with a little blood. Baby apparently little sick, temperature and pulse normal. Castor oil given, all nourishment withdrawn, water *ad libitum*. Next day temperature 101.5, pulse 150, respirations 60, labored, abdominal. Liver not palpable below border of ribs. Abdomen not distended. No vomiting. Two dark-green actions from castor oil. Castor oil, half ounce, ordered night and morning. Water to be freely given. On the 17th temperature 99.5, respirations 60. Condition continued practically the same till the 20th, when temperature reached normal, pulse 130, respirations 54, but no longer labored abdominal in type. On Wednesday rice water was allowed and on the 21st allowed to return to mother's breast. Two and three green actions only had been daily obtained from the ounce of castor oil given daily in two doses. This was a mild case, apparently, without noticeable enlargement of liver, returning to mother's milk in six days.

During 1904 one fatal case was seen. This was first seen some three hours before death, but despite the most persistent effort, no postmortem could be obtained. Three cases were encountered in which recovery followed. The measures employed were castor oil often enough to keep the bowels acting, withdrawal of all food till conditions changed, water *ad libitum*. Very little medicine was given beyond castor oil.

The last case seen in 1904 was in October.

Baby M., female, white, aged 15 months, bottle raised in large part. Seen in consultation. History gave two days of greenish actions, then labored breathing. Antitoxin was administered by the attending physician in the belief that the difficulty in breathing came from throat and might be diphtheretic. A throat specialist had been called, who failed to find any membrane in larynx. As soon as seen the case was recognized, the enlarged liver demonstrated, the normal lungs demonstrated and the absence of any throat involvement. This child was in desperate condition for days and for some weeks could assimilate the very smallest quantities of food. Slow convalescence.

During the season of 1905 two cases were encountered, but notes have been misplaced.

Baby H., male, white, aged 6 months, breast fed, vigorous, well-developed child of a physician. Asked to see the baby and found its bowel actions had been green and mucous for a couple of days, but baby did not seem ill. Rectal temperature 100. The following day it developed labored, abdominal, rapid breathing, its liver enlarged, its bowels ceased acting and were only made to act by large doses of oil. The child died unconscious in 54 hours.

The same month, June, 1905, Baby S., male, white, aged about 15 months, was seen at 11 a. m. For one hour previous labored abdominal respiration had existed. The child maintained this labored type of breathing for 56 hours, when it died unconscious.

During the season of 1906 four cases were seen, all fatal. Baby W., male, white, aged 20 months. Breast fed till more than one year old. Chicken-pox recently. Whooping cough few months preceding. Never very robust child, but strongest in family of three. Digestion not good for a week previous to present illness. Seen May 13, in morning. Temperature normal; apparently the child was but slightly ill, though there was a history of several loose actions the preceding night. Next morning early message came that baby was breathing fast since 5 a. m.—seen at 7 a. m. Respirations 56, labored abdominal type of breathing. Pulse 120, temperature 100. Liver not palpable. Child very restless and had been so all night. At 10 p. m. temperature 100, pulse 140, respirations 56. Liver palpable below border of ribs. Several bowel movements, mucous and bloody tinged; kidneys active. Thirsty; vomited at times.

May 15, temperature varied little from 99.5, respirations from 60 to 64, pulse 150 to 160. Very restless. Apparently conscious, expiratory moan and occasionally cries out. May 16, 7:30 a. m., pulse 170, respirations 62, temperature subnormal; unconscious, pupils dilated. Liver enlarged, reaching within inch of umbilicus. During night bowels had moved in very small quantity a number of times. Child died at 11:30 a. m., 54½ hours after fast breathing developed. Autopsy one and a half hours following. Heart and lungs normal. Spleen not enlarged. Organs apparently normal, except enlarged liver.

Baby P., 1906, male, white, aged 13 months, breast raised, son of physician. Loose bowels on Sunday afternoon, Monday and Tuesday. Not sick enough to excite any notice. Wednesday, June 27, in afternoon labored breathing began. Seen at 10 p. m. the 27th with Dr. Wilson. Father met me with the statement that his baby was extremely ill and he feared would die. Respirations 60, very labored and abdominal, expiratory moan. Pulse irregular and difficult to count at wrist. Temperature 99.1. Liver not palpable below border of ribs. Oil had been given during the afternoon and action resulting was very dark green; 400 c.c. normal salt solution given hypodermatically.

On 28th baby somewhat better. On 29th apparently much better. Temperature 99, pulse 95, respirations 34 and natural. Actions from oil on 29th much lighter in color. On 30th breathing again labored. Pulse so irregular as to preclude counting. Temperature 102. By 10 p. m. 30th liver full two inches below border of ribs and nearly to umbilicus across epigastric region. Very restless, vomiting, and died at 2 a. m. night of 30th. Demonstrations made to father and Dr. W.

Baby Robertson, male, white, aged 15 months, breast fed, seen in consultation with Dr. Wyman and Robertson, Aug. 31, 1906; sick two days. Labored abdominal breathing, developed day previous. Fast abdominal breathing, expiratory moan. Liver enlarged. Died 50 hours after symptoms set in. Seen only once in consultation.

Baby P., male, white, aged 13 months. Breast fed, always been healthy. Seen in consultation with Dr. Mobley, Sept. 9, 1906. Sick for four days. Labored breathing, only 40 to 42 in this case, developed the day previous to being seen. Temperature 99.5, had been subnormal earlier in day. Liver enlarged an inch below margin of ribs. Had been vomiting. Very restless and with expiratory moan. Died following day, about 50 hours from time labored breathing developed.

DISCUSSION.

DR. I. A. ABT, Chicago, said that several years ago he reported two cases almost identical with those of Dr. Parke, and, although he asked many men if they had ever seen such cases, few had recognized them. Dr. Abt emphasized the symptoms the essayist referred to: Children who have been previously healthy fall ill suddenly, with rapid breathing, great prostration, rapid pulse, dyspnea, and examination shows a very large liver. Those cases followed to autopsy show extensive fatty degeneration, so extensive that one of the pathologists to whom he referred such a case reported that the liver resembled the liver of phosphorus poisoning, or acute yellow atrophy. As Dr. Abt's patients approached the fatal termination they showed evidence of obstruction of the bowels; they became very tympanitic and were unable to pass feces or flatus, and in one case immediate laparotomy was advised for a supposed intussusception. The autopsy showed that there was no mechanical obstruction, but a paralytic ileus. In one case albumin leucin and tyrosin were found in the urine, indicating the degenerative changes which had taken place.

DR. R. B. GILBERT, Louisville, Ky., has seen three cases very much like those described. In one of them the autopsy

disclosed an intussusception in a 4 months old infant, with a large liver and other characteristic findings. Another patient died in 36 hours, presenting all the usual symptoms. The liver reached nearly to the umbilicus. Another patient, seen recently, presented rapid breathing, with the liver enlarging. The urine was highly colored with bile. The following treatment was instituted: High irrigation of the colon with normal saline solution, every eight hours. Five grain doses of solution of phosphate of soda in hot water. The baby (5 months old) improved promptly.

Dr. J. L. Morse, Boston, Mass., said that the symptomatology of these cases is quite characteristic of acid intoxication with the acetone bodies, whatever may be the cause of the formation of these bodies. In a number of cases he has found acetone bodies in the urine, although this finding was not of great importance, because the babies were vomiting and taking no food. Several patients treated with bicarbonate of soda in large doses, however, improved considerably.

Dr. S. J. Walker, Chicago, said that while this is a definite symptom-complex, most characteristic is the character of the breathing, the air hunger these patients present, moaning, gasping, irregular breathing, and then alarming symptoms of collapse. Of course, he said, it is a profound intoxication of some sort.

Dr. A. C. Mercer, Syracuse, N. Y., asked Dr. Parke whether he knew the pulse and respiration rate of these patients.

Dr. C. G. Kerley, New York City, did not consider the cases Dr. Parke described as being particularly common. He has known of cases that come up to the symptomatology described very well, but so far as his observation goes, the enlargement of the liver is not at all unusual. This, he said, is found in cases which show rapidity of respiration as well as in those that do not. Fatty liver is found in many toxic conditions, whether prolonged or acute. He has always thought that these cases are due to some peculiar form of toxemia. There are many intestinal bacteria that are capable under favorable conditions of producing different kinds of toxemia, as has been shown by Herter and others. Dr. Kerley thought that the rapidity of the respiration was due to some particular form of toxemia that affected the respiratory center and produced unusual stimulation. Some drugs produce such results.

Dr. T. D. Parke, Birmingham, Ala., said that there were fields in several of the sections of liver that showed no normal cells had no nuclei, hardly conforming with fatty infiltration. As to obstruction in any case, the postmortem definitely excluded it from all of the cases coming to section. There was no mouth symptom in any case. The color of the stools was a very dark green, in most instances so dark as to appear black at first sight. The pulse and respiration ratio was variable. Dr. Parke thought that the question of toxemia is an open one.

THE CYTOLOGY OF GONORRHEAL DISCHARGES.*

ROBERT W. TAYLOR, M.D.
Consulting Genitourinary Surgeon to the Bellevue and Charity (City) Hospitals.
NEW YORK CITY.

Within the past five or six years considerable attention has been directed to the study of the finer structural details, in other words, the cytology of the elements of the discharge of urethritis. This line of study, as well as the methods employed, is practically an application of the recent advances in the morphology of the blood. It is somewhat difficult to see what particular purpose this work subserves, for it has not helped us in understanding the nature of the process nor has it given any aid from a prognostic standpoint. And after reviewing the subject and supplementing it with some personal observations I have come to the conclusion that any clinical aid or therapeutic guidance from this whole line of work, although sustained by a large volume of literature, is of very doubtful value. It is not susceptible of practical application.

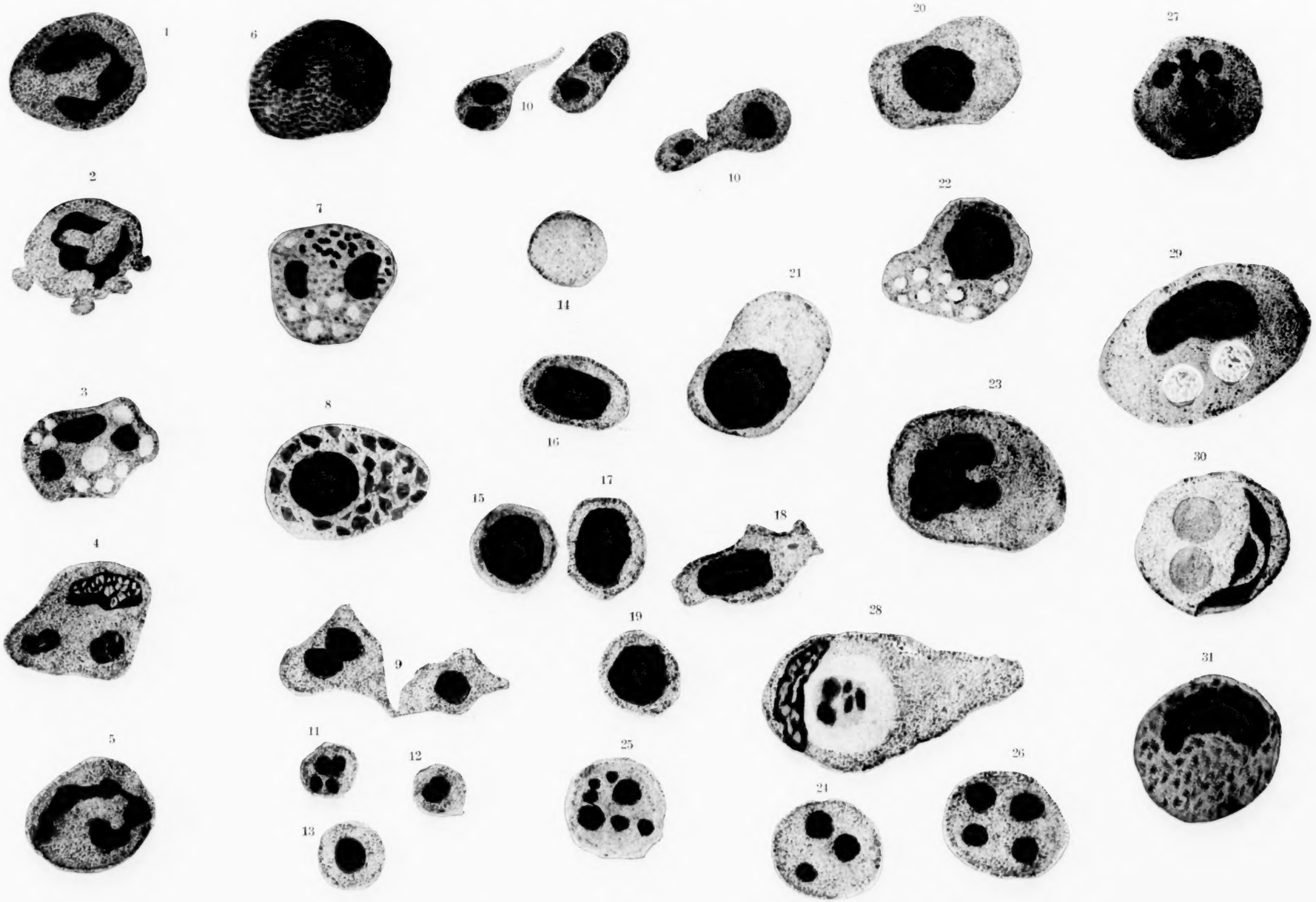
I shall endeavor to lay the subject before you, however, through these personal observations, which, although limited to some 28 cases of ordinary gonorrhea, 5 cases of vulvo-vaginitis in children and 2 cases of gonorrheal ophthalmia, seem to me to cover the field sufficiently for our purposes, as well as would the study of cases by the hundreds. Considerable time has been expended on the relative advantages of various staining mixtures, the methods of fixing the smears, etc., which merely involves the consideration of rather immaterial details. I have found Wright's method of staining blood smears the most practical, since it is very convenient and differentiates the various cellular elements in the discharges and exhibits perfectly their structural details.

As every one knows, the predominant cellular element in gonorrheal discharge all through its course and even in the stage of the threads is the ordinary pus cell or leucocyte, the neutrophilic, polymorphonuclear leucocyte. The only exception to this is the exceedingly early initial and evanescent stage when there may be a considerable proportion of desquamated epithelial cells. These leucocytes are seen in Figures 1 to 5 and 31, and are the cells in which, as shown in Figure 7, the gonococci are most frequently, indeed almost invariably found, although, of course, they may be found in uninuclear cells and on the surface of epithelial cells.

Occasionally among the leucocytes the eosinophilic variety is found, which never contain gonococci and are pictured in Figure 6. These very striking structures, crowded with coarse, brilliant, red granules, have naturally attracted attention from nearly all writers on the subject, and they have endeavored to connote their presence with some particular stage of the disease. There is an impression that this type of leucocyte is present in greatest number in the first month of the discharge. The several statements on this point are very discordant. Both C. and H. L. Posner[1] regard the advent of the eosinophiles as occurring up to the fourth or sixth week of the discharge. After that they gradually decline. Joseph and Polano[2] also subscribe to this statement and have persuaded themselves into the belief that the decline of the eosinophiles indicate that the process has reached its culmination. On the other hand, Bettman has found voluminous eosinophiles late in the disease, in the gleety stages. Among their tables Joseph and Polano record finding them in the eleventh month of the discharge. In our observation we have found that they are just as liable to be absent as present in the first four weeks of the affection. So, as a matter of fact, there is no definite period which is distinctly related to the advent of the eosinophiles. They may be absent in the early period and, on the other hand, they may be found all through the course of the disease. According to Pellagatti,[3] the eosinophiles appear in the first few days of the malady; they then disappear, only to reappear later on in small numbers. When the discharge is treated,

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

1. Posner (H. L.): Zur Cystologie des gonorrhoischen Eiters, Berlin, klin. Wochschr., Oct. 22, 1906, 1401.
2. Joseph (Max) and Polano (M. E.): Cytodiagnostische Untersuchungen Gonorrhoischer Sekrete, Archiv. für Dermatologie und Syphilis, lxxvi, 1905, 65.
3. Pellagatti (M.): La Constitutione anatomica del Pus blennorrhagico, Giornale Ital. delle Mutattie Veneree e della Pelle, Fasc. 3, 1906, 237.



ILLUSTRATING "THE CYTOLOGY OF GONORRHEAL DISCHARGES." BY DR. R. W. TAYLOR.

Pellagatti thinks that the presence of the eosinophiles is wholly irregular and without any value whatever. Joseph and Polano think that the inverse proportion of the eosinophiles to the number of gonococci present is of prognostic significance. It remains to be seen, however, if this will stand the test of time and abundant experience.

Another cell component of gonorrheal discharge of rather comparatively infrequent occurrence is the presence of the mast-cell. These we have met with only once in a case of gonorrheal ophthalmia. They are pictured in Figure 8 as they appear stained with Unna's procedure. Joseph and Polano found them in 30 cases out of 200. They seem to have no particular significance.

Considerable attention has been given to the mononuclear basophilic cells in gonorrheal discharges pictured in Figures 16 to 19 and 20 to 22. The first set of figures correspond to the small lymphocytes and the latter to their companions, the large lymphocytes. The smaller cells are, in our experience, less frequent than the larger ones. Pappenheim thought that these cells indicate the period of healing and restitution of damaged tissues in the disease. This turns out to be rather conjectural, however, for these cells are found all through the course of the disease. Neuberger[4] shows the instability of this conclusion for lymphocytes, and mononuclear leucocytes are found not only in the subacute stages, but in the acute also.

Various degenerative changes of no particular significance occur in the several cells. Thus, in Figure 2 there are small buds of the substance of the cell which, when free, may give rise to small spherical bodies shown in Figure 14. Other changes are vacuoles in the cell body, as shown in Figures 5 and 7 and of the nucleus in Figure 4. These vacuoles in the cytoplasm have been regarded by H. Posner as indications of phagocytic activity of the cell. According to this idea, these spaces are holes which correspond to particles, not necessarily gonococci, which have previously been ingested and dissolved by the cell. This interpretation is somewhat guesswork and the spaces may indicate something entirely different.

A very curious and interesting phenomenon, although without any special bearing on the matter in hand, is segmentation of lobes of the leucocytes together with the inclusion of nuclear material. For instance, in Figure 8 and also Figure 10, which shows a single leucocyte, this process of segmentation is illustrated. Whole lobes of the cell are in the act of being detached with included masses of nuclear material. In this way small round nucleated bodies about the size of a blood plaque are produced which are shown in Figures 11, 12 and 13. This, as far as I know, has escaped the attention of other observers.

Still another cell element occurring occasionally in the discharge is the so-called "ball nucleated" leucocytes (Figs. 24 to 27). These are well named, for the nuclei are perfectly spherical, very deeply staining and opaque, and without any connecting filaments or bridges between the nuclei. Thus, they are peculiar and can be easily distinguished. Posner, finding them more frequently in non-gonococcic urethritis than in other varieties, intimated that their presence was a hint that the discharge was of the non-specific form or one in which the gonococci had disappeared, or was associated with other organisms or toxins. The trouble with this assumption is that such peculiar cells are found in ordinary gonorrhea just often enough to make it of very little use. The cells corresponding to Figures 24 to 27 were found in an ordinary gonococcus urethritis in the tenth week. The "ball nuclei" cells are merely transformed leucocytes and depend on certain conditions apparently unassociated definitely with any particular type or phase of urethritis. Neuberger observed them more particularly in the morning exudate.

Phagocytosis may occur to some extent in gonorrheal discharges, but I have not thought the phenomenon of sufficient bearing on the study or treatment of urethritis to show more than one or two instances in Figures 28 and 29. The article of Neuberger[5] may be consulted if one desires to follow out the confusing and complex morphologic pictures which are given there with considerable elaboration.

In Figure 28 is a lymphocyte, a macrophage of Metchnikoff, in the apparent act of engulfing a polynuclear leucocyte, which latter seems undergoing digestion or disintegrative changes. In Figure 29—taken from an early discharge with considerable diapedesis of red blood cells—there is an apparent ingestion and partial destruction of two red blood cells by a macrophage. It may be, however, that these red cells, instead of being engulfed by the macrophage, are simply mechanically and accidentally attached to its surface. This may also be the interpretation of Figure 30 taken from Sprecher's[6] paper (devoted to the phagocytosis of red cells in gonorrheal exudate). This is a very minor point, however, for whether engulfed or merely lying on the surface the result is much the same, the red cell seems undergoing dissolution from the action of substances secreted by the phagocyte. Incidentally some of Sprecher's pictures are, perhaps, a little divergent from the current ideas of phagocytosis, since he shows microphagi engulfing red cells instead of macrophagi. However, that macrophagi rather than microphagi are concerned with the engulfing of animal cells is a general rather than an absolute rule. To sum the matter up, it seems to me that all of this detailed study of cellular elements of gonorrheal discharge, interesting as it may be, has contributed very little to our understanding of the nature, prognosis or treatment of urethritis.

142 West Forty-eighth Street.

4. Neuberger (J.): Ueber gonorrhoische Secretumtersuchungen. Congress der Deutschen Dermalogische Gesellschaft in Bern, 1906.

5. Neuberger (J.): Uber die Morphologie, das Vorkommen und die Bedentung der Lymphocyten und uninucleären Leukocyten im gonorrhoischen Urethralsekret nebst Bemerkungen uber die sog. Kugelkerne, Virchow's Archiv. zur pathologische Anatomie und Physiologie und für Klinische Medizin, clxxxvii, No. 2, 309, 1907.

6. Sprecher (F.): Ein Beitrag zur Cytologie des Gonorrhoischen Elters, Archiv. für Dermatologie und Syphilis, lxxviii, No. 3, 407, 1907.

PLASTIC SURGERY OF THE PELVIC STRUCTURES.*

HENRY O. MARCY, M.D.
BOSTON.

The fear of hemorrhage appears to have been the only reason for the use of the uterine clamp. Sir Spencer Wells, Dr. Thomas, Dr. Storer and others spent much time and thought on the devices with which their names

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-eighth Annual Session, June, 1907.

* The series of operations under discussion, as indicated in the title of this paper, are the results of many years of observation and study. From time to time I have written on these subjects more or less fully and I incorporate here my conclusions. The results arrived at from the use of the buried animal suture are the fruitage of much original research work, which was published many years ago. The infraperitoneal treatment of the stump of the uterus in hysterectomy is of major importance and has been generally adopted.

are connected. Clamps were in no wise preferable to ligatures with their ends cut long and left extending through the abdominal wound, although it was contended that the wound could be packed about the clamp so as to render infection less liable, and that by tightening the clamp from day to day hemorrhage could be more safely controlled. Although Dr. H. R. Storer was for a long time an advocate of the clamp and his clamp possessed certain advantages, he introduced the treatment of the cervical stump by suturing it firmly into the deeper layers of the wound—called by him "the pocketing of the pedicle." This procedure rendered it possible to close the abdominal cavity and thereby avoid drainage and subsequent infection—very important and manifest advantages not then appreciated. Of course, there were distinct criticisms of this method. The pelvic structures were put on tension, causing pain and a liability of their tearing away from their abdominal attachments, thus leaving a large open wound, a constant menace from infection, even when the primary operation was aseptic.

My first attempt to improve this method consisted in sewing the entire stump through and through with a double continuous tendon suture taken from the hind leg of the moose. I was led to adopt this method since my previous studies on the use of buried aseptic animal sutures had taught me that they were safely absorbed when buried in any well-vitalized, non-infected structures. After thus suturing en masse, which, of course, included the vessels, I coaptated the peritoneal edges and closed the abdominal wound in layers without drainage.

Although by this method hemorrhage was effectually prevented, it soon became apparent that the through-and-through suturing was unnecessary and ill-advised. In 1880 I adopted the method which I have since used continuously: cutting the stump conically well into the cervical tissues, deflecting the peritoneum in a wide margin, ligating the vessels separately, touching the cervical canal with 95 per cent. carbolic acid, and intrafolding the peritoneum by a continuous tendon suture. This suture is taken about a third of an inch from the cut surface of the peritoneum and is parallel to its edge (hence called a parallel suture). When the suture is drawn on, the inverted edges are evenly held in apposition and the suture itself is buried. The divided edges of the broad ligament are coaptated in a similar way, thus leaving all abraded and cut surfaces covered with healthy peritoneum.

I first reported my experience, advocating this method, to the International Medical Congress held in London in 1881. The operation conducted aseptically is followed by recovery with the minimum of danger. The advantages of this method may be summarized as follows:

1. An absorbable animal suture which disappears leaving the tissues intact.

2. As far as possible an uninjured peritoneum, reducing the danger from adhesions to the minimum.

3. The retention of the cervical tissues serves as a key to the arch of the pelvic structures, supporting both bladder and rectum in easy normal elastic position.

4. The abdominal wound is closed in layers with tendon sutures, restoring the structures in their normal relationship, obviating the danger of hernia. The wound is sealed with iodoform collodion and needs no further dressing.

In over 2,000 aseptic laparotomies with primary repair I have not had a single hernia, and in no instance has the patient worn a support. The extraperitoneal treatment of the stump from below is now generally adopted and is an assured factor of modern surgery.

LACERATION AND EVERSION OF THE CERVIX UTERI.

It seems to me but recently that this operation was accounted one of considerable magnitude. As practiced by Sims, Emmet, Thomas, Skene and others, it was not easy and required both dexterity and skill. Much emphasis was placed on the accuracy of dissection, especially in the removal of cicatricial tissue from the upper angle of the wound. And to facilitate this and operations on the vaginal structures, the speculum here shown was devised and is of great service. A short retractor tubular speculum, of which there are a number of varieties, helps to make the operation one of almost external character. I devised one twenty years ago, first having utilized a piece of lead pipe, from which any one in a few moments can manufacture a satisfactory instrument. The depressor portion of this instrument is especially designed to hold and to control the levator ani muscle. Its simplicity offers little need for explanation. The vaginal portion is constructed so as to cause a minimum of pressure on the vulvar outlet. It is irregularly broadened within so as to secure without slipping a firm hold on the levator loop, and this allows depression without overstrain of the external tissues and permits the foreshortening of the instrument to the minimum, scarcely more than one inch in length. When the uterus is of normal mobility the cervix may be easily brought to the vulva. The anterior vaginal wall and

the uterus are, by its use, rendered much more accessible. The handle is made hollow for the escape of the irrigation fluid and roughened for a secure hold. This speculum as well as the needles and special knife are made by Codman & Shurtleff, of Boston, and other manufacturers.

The essentials of the operation as now performed are the cutting away of the cicatricial tissue so as to leave fresh surfaces along the original line of laceration, the suturing of the edges with a continuous absorbable suture, the introduction of a small soft rubber drainage tube to ensure the patency of the canal, and the placing of a tampon of iodoform wool for a final dressing. The parts remain at rest and primary union is to be expected. No sutures require removal.

LACERATIONS OF THE FEMALE PERINEUM.

Recent publications show that, notwithstanding the study of the subject by many of our best surgeons during the present generation, there is by no means a generally accepted, well-settled method of repair for injuries to the perineum. For this reason I add this contribution, although I have several times published monographs on the subject.

As a primary premise, it may be accepted that the repair of an injured organ should consist as far as possible in its restoration to the normal condition. To accomplish this a clear understanding of the normal condition is of course necessary, or in other words there must be an accurate knowledge of the anatomy and physiology of the component parts involved. In the perineum these parts

consist of the structures of the pelvic floor, and their arrangement to provide for the support of the pelvic organs and for the prevention of hernia at the openings for anus, vagina and urethra. This knowledge is fundamental.

Injuries to the perineal structures vary widely. In one sense laceration of the hymen or vaginal fourchette might be thus considered. Such lesion, however, is excluded from surgical consideration, except in the rarest of instances. The point of union of the transversi perinei muscles, interdigitating as they do with the levator ani muscles, making with their connective tissue sheaths the so-called perineal body, is the more common part to suffer injury. The lesion of these muscles may be central or lateral, a factor of some importance to be determined before attempting restoration.

The lack of central support due to such injury, caused by the retraction of the transversi toward their point of origin, results in a more or less marked patency of the vulvar opening. Even where the injury is confined to the separation of the transversi and the sphincter ani itself is not torn, the sphincter is in a measure disabled from the proper performance of its function, since it has lost its anterior point of support. Owing to this the anal aperture is drawn posteriorly and the position of the rectum is changed—the rectum being pouched forward, forming a more or less well-marked rectocele. The cervix likewise loses its support and varying degrees of uterine displacement follow.

Since the dissections of William Hunter, undertaken to demonstrate the anatomy and physiology of the reproductive organs during pregnancy, the most valuable contribution to the proper understanding of the anatomy of the pelvic structures in the female is that of Dr. Henry Savage of London. These studies, supplemented by the important teachings derived from the study of frozen sections, greatly modify the previous views of the physiologic relationship of the pelvic organs. The depth of the perineum is less than usually described. The axis of the anus cutting that of the vagina nearly at a right angle, leaves in the external angle an irregular flattened mass of tissue rarely, when examined on the living, more than one-half inch in thickness. In the multiparous woman this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, levator ani interblended with transversi muscles, sustaining fascia, and the anterior portion of the sphincter ani muscle.

The vaginal side is normally concave and the rectal side convex, owing to the interblending of the sphincter ani with the other structures. If the finger is carried just within the perineum proper, and a little to one side there can be felt the firm encircling band of the levator pubo-coccygeus muscles attached to each ramus of the pubis above and descending to join with the posterior fibers of the sphincter ani and the coccyx behind. In the perineum posteriorly this is firmly interblended on either side with the transversi perinei muscles. These muscles are under the control of the will, in considerable degree, and acting conjointly serve to draw the vagina forward toward the pubis.

The parturient and fecal canals are supported in the pelvic basin in close apposition and the functional relationship is often such that the one may encroach on the other, so as to occupy nearly all the space accorded to both. This is especially true in parturition, where the rectal space is reduced to a thin, folded, flattened tube. Often in elderly women with old perineal lacerations, the rectum becomes saccate, pushing forward the posterior vaginal wall to form a considerable sized external tumor. The pelvic floor is normally so formed and blended about these openings that it not only supports these canals, but also aids them materially in their physiologic function. In intimate relation to both are the bladder and uterus in their ever-varying functional activity; and each is surrounded by a delicate plexus of nerves and vessels. The sacral prominence throws a large proportion of the abdominal weight on the symphysis pubis and the recti muscles in the support of the body, and thus relieves the pelvic basin and takes off undue strain from the pelvic floor. The rectum is seldom entirely empty, is circular in shape, serves the digestive apparatus in a measure as a constantly receiving reservoir, and, when not distended, may be felt from the vagina as a flattened tube curving posteriorly. It is suspended and supported, so to speak, hung, by the levator ani muscles, which hold the vagina in their encircling loops. On the contrary, the vagina, entirely unlike the earlier diagrams, is flattened antero-posteriorly on itself and normally its walls, when at rest, are in even, close apposition.

The vagina joins with the vulva at right angle to its lateral opening at the entrance of its passage through the pelvic floor. The vulvar organs are all intimately blended with and go to form a part of the perineum proper. On each side of the vaginal orifice are the erector clitori, the bulbo-cavernosus and the transversus perinei muscles; and these with the levator ani make up in a large measure the pelvic floor. The bulbi-vaginæ and the glands of Bartholini are covered by these muscles with their erectile plexus of vessels and abundant distribution of lymphatics and nerves.

The erector clitoridis and the bulbo-cavernosus muscles, with the transversi perinei, join on each side to constitute the ovate muscular vaginal orifice; and in their conjoined action perform a very important physiologic function in sexual congress, often underestimated or ignored. Their impaired function frequently underlies certain reflective nervous conditions, distinctly pathologic, which are easily overlooked, but are the cause of much suffering and unhappiness.

The much-discussed so-called perineal body has, in my opinion, misled some of our prominent authors into false positions and caused great confusion and misunderstanding among physicians.

I have been criticised for emphasizing the muscular floor of the pelvis and for underestimating the importance of the variously distributed connective tissue fasciæ. This is not by any means my intention. The superficial perineal fascia, in its deep layer in the male as well as in the female, covers and encloses the transversus perinei muscles, forming strong ligamentous bands uniting in the perineum—designated by Savage as ischio-perineal ligaments. The pubo-coccygei, acting in unison with the other muscles of the pelvic floor, draw forward and thus aid not only in closing the rectum, but in holding both it and the vagina in the anterior curve so important to be retained for the preservation of the normal function.

A horizontal section made through the floor just above the sphincter vaginæ and behind the union of the transversi perinei shows the deeper fibers of the pubo-coccygeus uniting in a loop behind the lower border of the rectum, holding it from its fixed point at the pubis as in a sling. This loop is connected with the transversus perinei, the bulbo-cavernosus, the erector clitoridis, the sphincter vaginæ and the sphincter ani muscles by strong

layers of connective tissue, the importance of which for union and support can not readily be overestimated. On the posterior wall of the vagina in its lower third longitudinal muscular fibers are found external to the circular layer, and these blend intimately with the pubo-coccygeus, giving a firm support to the vaginal outlet, quite as the outer longitudinal fibers of the rectum unite with the deep layers of the sphincter ani. The physiologic action of the muscles thus grouped serves to draw the rectum forward toward the pubic arch; and this explains in a large degree why the circular fibers of the vagina left free to act in other directions are intrafolded laterally, making in cross-section an imperfect letter H—a fact first pointed out by Freund in 1883. The position of the vagina at a right angle to the vulvar outlet is very important in its relationship of support to the uterus and its appendages.

The surgical procedures which have been devised for the restoration of these structures are manifold, and many of them are in the highest degree ingenious, but too often confusing and unsatisfactory. The study of their history is instructive and profitable, but to me the field is more tempting for review than it is to the junior practitioner, since these various procedures have been elaborated for the most part within the period of my surgical experience. I shall, however, in this paper limit myself to those having a bearing on the methods which I have especially commended.

My earlier masters—Marion Sims and Thomas A. Emmet—most ingeniously devised scissors with various curves and dexterously used them to denude the posterior V-shaped portion of the vagina which was thought advisable for coaptation. So exceedingly dexterous were those men that I have seen them pare back and forth a narrow ribbon from this portion of the vagina, leaving the dainty piece unbroken.

My late friend, Dr. Edward Jenks, of Detroit, separated this portion of the posterior wall of the vagina as a flap instead of denuding with the scissors, and then cut it away and sutured as Sims and Emmet had done. Not long prior to this I had begun the use of buried animal sutures in a considerable variety of wounds; and it occurred to me that by adopting the method of Jenks, I could preserve the flap thus separated and coaptate the deep structures by sutures buried beneath it.

I soon found that the line of division was not between mucous membrane and vagina, as had been supposed by these authorities, but that it lay behind the attenuated posterior portion of the vaginal muscle, often so thinned out as to be hardly recognizable. For obvious reasons the posterior vaginal fascia holds the vagina loosely to the subjacent structure, and the separation is not difficult except when united by bands of cicatricial tissue. After making this separation, it is not difficult to differentiate the levator loop and to bring it with the ends of the divided and separated transversi into easy inspection. A further dissection externally on either side of the sphincter ani posteriorly makes the wound of sufficient size for easy manipulation. This permits the reconstruction of the perineal structures in a simple and easy manner, with various unimportant modifications, and this is the method which I have practiced and taught for more than a quarter of a century. Finding that catgut sutures did not always hold the parts in coaptation sufficiently long, I at first devised a lateral support by means of two or more disjointed pins, which, when reunited after their introduction, held the parts in juxtaposition like an ordinary safety pin. Later I had the good fortune to obtain tendon sutures from the tail of the kangaroo, which proved reliable and rendered the use of fixation supports unnecessary. Since then I have use chromicised tendon sutures only and with entire satisfaction. These have been and may be applied in a variety of ways.

The first step in the operation is to dilate the sphincter ani. Then the index and middle fingers of the left hand are introduced into the rectum and they are retained there until the end of the operation, where they are of great service. The septum is made tense by the retained fingers, and a button-hole incision is made on the median line with either knife or scissors. I prefer a double-edged pointed knife. Through this opening I introduce a knife of special design. I am sure additions to our armamentarium should not be made without good reason, but this instrument adds materially to both ease and safety of dissection. The cutting part is something the size and shape of the little finger nail, and is placed at an angle with the handle so that when pushed in a direct line the edge is at an angle of about 45 degrees to the part to be divided. The parts are made tense by the fingers in the rectum and the knife is guided so that neither rectum nor vagina is injured. The lateral dimpled depressions in the vagina mark the site of the separated retracted transversi. Even with a sharp knife these are divided with difficulty. Elsewhere the separation is easy and is often made almost entirely with the fingers, dividing an occasional cicatricial band with scissors. The Emmet scissors serve admirably for the separation of the vagina from the vulva. The little lateral fold of mucous membrane on either side shows the inception of the original lesion. To these points the dissection is carried anteriorly. Thus the posterior third or more of the vagina is separated from its attachments quite to the crest of the rectocele.

This flap is held anteriorly by an assistant; a large curved needle, firmly set in a handle, with the eye near the point, carries the suture. This needle is especially designed for the use of the double continued buried animal suture. The eye is made large for ease of threading and the lateral slots hold the suture from slipping. The cutting edge is on the outer side as the point of the Hagedorn needle. The fingers in the rectum aid materially in guiding the needle. It is carried through the left side, penetrating the transversus and the levator muscles, unthreaded and withdrawn. Is then rethreaded and made to penetrate just above the vaginal junction with the rectum and then is carried through the right transversus and levator before it is unthreaded and withdrawn. The double stitch is exactly like that of the cobbler, the needle serving as carrier of the suture from side to side. In this manner I usually take three stitches. When drawn moderately tight the widely separated structures are evenly coaptated in the median line and held in fixation.

The remaining tissues are united by a light, continuous, running suture, best effected by a rather large-sized, full-curved Hagedorn needle. The distal end is fixed by a loop knot, and the needle carried deeply from side to side places the suture at right angles to the long axis of the wound. When drawn on, the tissues are evenly coaptated in the median line with no suture material in the line of union save where it crosses at a right angle.

I have called this stitch the parallel suture, since the needle is inserted parallel to the long axis of the wound. In this way the entire wound is easily and rapidly closed, the reconstruction being made so complete that the vul-

var opening is entirely restored, even to the reformation of the hymen if desired.

When the laceration has been so extensive as to include the sphincter ani muscle and a portion of the rectum, we have a very different problem. The posterior wall is not thinned out as in rectocele, but to the contrary the vaginal muscle is contracted and often the vagina is thick walled. In operating, the rectum and the vagina are divided as freely as in the incomplete form of injury. This permits the reconstruction of both rectum and vagina by reuniting them separately with continuous sutures, care being taken not to penetrate either rectum or vagina by inserting the needle from side to side from the dissected surfaces only. The rectal suture must be inserted deeper here than in other portions of the bowel, and may be so placed, since the connective tissue layer is here thicker than in the free part of the large intestine. The vaginal suture is held forward by an assistant and the rectal suture is held down by the weight of a pair of forceps. The remaining wound is now closed in the same manner as already described in the restoration of the incomplete laceration when ready for the introduction of the parallel double fixation sutures for the reunion of the transversi; and the operation is completed as above described except that the separated retracted fibers of the sphincter ani must be freed and sutured. The short wound in the median line is closed by a light running buried suture; the wound dried and protected by a seal of iodoform collodion.

To summarize: By free dissection and the use of buried absorbable sutures, the parts are entirely restored to their former normal anatomic condition and physiologic function. Aseptically maintained, the repair is rapid and painless.

The urine should be drawn for the first few days. The bowel is never allowed to become distended with hard fecal masses. In complete lacerations, a large rectal tube of soft pure rubber wound about with iodoform gauze should be inserted and left in place for a few days.

VESICOVAGINAL FISTULA.

Fortunately, this distressing accident is much less common than formerly, owing to the advance of obstetric surgery. However, when it does occur, its cure often taxes the resources of the surgeon to the uttermost. Sims and Emmet paved the way and their methods were accepted for a long time with unqualified approval. Little thought I that I should ever advocate other methods than those of these great masters of mine or that I should abandon the use of the silver wire suture as a *sine qua non* in this affection.

In the surgery of the bladder from within the abdomen, I was at once impressed by the ease and certainty of repair, giving in every instance a rapid cure. This led me to the conclusion that the pelvic portion of the bladder wall was difficult of repair because of its close attachment to other structures having different functions. On this account the refreshed edges of the wound can not remain at easy replacement and rest, an essential factor of cure. I obviate this complication and reduce the problem to its simple factorage by separating the bladder wall broadly from its attachments from below and close the wound with a double continuous buried animal suture, inverting and supporting the structures by a second layer. The vaginal wound is then closed by a continuous buried suture. A catheter is retained for some days in order that the structures may remain at rest. Of course, there are no stitches to be removed, and when the wound has been made and retained aseptic cure is to be confidently expected.

HERNIA OF THE BLADDER.

This, independent of cystocele, is not common and is easily overlooked. Its cure is not difficult. The operation consists of a free dissection posterior to the vaginal muscle and a restoration of the strong anterior fascia, on the injury to which the hernia is dependent. Emphasis may be made of the importance of a free dissection in order accurately to restore the sundered structures. Here, again, equal stress should be made on the value of the buried animal suture. I usually use a double continuous suture quite larger than that employed in closing the wound of the bladder. The vaginal wound is closed in the same way as in the vesicovaginal fistula.

RECTOVAGINAL FISTULA.

This, as vesicovaginal fistula, is much less common than formerly. The same principles as involved in the wounds of the bladder must be recognized and profited by here. Then the cure may be confidently counted on. The perineal structures have been so injured that it is better at once to divide the uninjured fibers of the sphincter ani. Then the injuries of rectum and vagina are to be treated independently. The separation of the vagina and the rectum must be widely made, devitalizing the structures as little as possible. The first step of the operation consists of refreshing the old cicatricial portion of the rectal wound. The refreshed edges of the rectum must be coaptated with special care. I much prefer the double shoemaker's stitch, using a rather small needle and fine, carefully selected tendon. The suture is inserted a quarter of an inch above the upper angle of the wound and the stitches are taken with extreme care to include the coats of the intestine, excepting, of course, the mucous membrane. This line of sutures coaptates and turns toward the bowel on either side a full quarter of an inch of the well-vitalized structures. They are continued externally to include a small portion of the sphincter muscle. The ends are temporarily left long in order the better to secure control of the structures in the subsequent steps of the operation. The divided vaginal tissues are treated in precisely the same manner. This having been completed, the subsequent steps of the operation are those for the restoration of the perineal tissues when uncomplicated by a rectal fistula.

THE VULVOVAGINAL GLANDS.

From a variety of causes these glands may become infected and purulent collections supervene. When thus diseased they are so changed that they can never be restored to their normal function. The common method of waiting until they discharge spontaneously or open as an ordinary abscess is unwise and should be condemned. The pain is usually sufficient to cause the sufferer to consult her physician at an early stage of the disease, and then just within the swollen tender vulva may be felt a small movable tumor; the involved gland is within its capsule and the surrounding tissues are uninfected. At this stage of the disease the dissection is easy and the surrounding tissues are to be coaptated and closed. The iodoform collodion seal will not remain on the mucous surface long unloosened, but the repair processes are rapid and the wound is closed in a very short time by cell proliferation. Pain and suffering are at once removed, and the patient may not even be confined to bed beyond the recovery from the anesthetic.

The operation may be made painless by the injection of cocain, but in my experience the tissues infiltrated with the cocain solution undergo less rapid repair. When suppuration has already taken place, the dissection is much more difficult and the wound liable to become infected with the failure of primary union. This can usually be avoided, but if infection occurs, the wound should be packed with iodoform gauze and the recovery is somewhat slow and tedious.

A much more rare affection is a cystic degeneration of these glands. This is usually of slow development and the tumor may become of considerable size. It is sometimes difficult to determine this condition with exactitude, since a pudendal hernia may exist as a permanent fluctuating tumor. I have removed a glandular cyst of the vulva, quite fist-sized, which had been diagnosed as a hernia. The large pocket remaining after dissection should be closed from the bottom by buried sutures and the surfaces carefully coaptated and sealed.

VARICOSE VEINS OF THE VULVA.

In a minor degree, this a very common affection and is a cause of much suffering. When the vulvar plexus of veins has become ectasic in a manner to cause a marked soft pudendal swelling, operative measures should be favorably considered. These are radical and not serious. Varicocele in the male has long been considered a distinct surgical affection; and yet the ectasic veins of the vulva have generally been regarded beyond surgical relief, although the suffering has been distinctly recognized and the danger from rupture of the vessels in labor has long been known.

Under aseptic precautions a free dissection is made, the vessels are ligated without much difficulty and portions of the plexus may be removed. The one marked danger from sepsis is ever to be borne in mind; but when the wound is maintained aseptic the tissues of the vulva undergo rapid reparative changes owing to the exceptional vascularity and vitality of the structures. It often will be of value in coaptating the tissues to bury a line of sutures, quite deeply taken, in order to constrict vessels which have not been isolated and included in the ligatures. The importance of complete aseptic closure of the wound and protection with the iodoform seal can not be overestimated. The larger thrombi, which sometimes are so extensive as to threaten gangrene of the parts, are often better treated in this manner—a safe procedure when the tissues are maintained aseptic. This is best controlled by deep buried sutures and the wound closed.

THE CLITORIS.

When required to be removed for disease other than cancer, the operation is comparatively simple and easy. It must be remembered that the tissues are very vascular and that the hemorrhage is sometimes troublesome. A V-shaped incision, with apex anterior to the glans clitoris, is carried on either side of the crura sufficiently downward to extend below the body of the organ, which is dissected free posteriorly. A branch of the internal pudic artery is distributed to each crus; this is sufficently large usually to require a separate ligature. The venous hemorrhage is best controlled by the use of a fine buried suture introduced from side to side in a manner to coaptate the borders of the gaping wound. The superficial sutures are joined by a line of buried parallel sutures and the parts sealed with iodoform collodion.

The vulvar organs are not seldom advantageously subject to plastic operations following the removal of neoplasms, caruncular growths of the hymen, and in injuries in considerable variety, but which in this connection require only a simple reference.

HEMORRHOIDS.

The pathologic conditions which pertain to the rectal tissues result in a very large degree from changes in the vascularization dependent on the dilatation of the hemorrhoidal veins. These are often deformed to an extent rarely appreciated by the ordinary practitioner, and only to be truly understood by the surgeon who makes the resection for the purpose of cure.

I am constrained to believe, as I think for abundant reason, that the ligature and cautery, destruction of the tissues by acids, etc., are not only unsurgical and barbarous, but also in the end often fail of securing the result desired, since a portion of the deformed structures not seldom remain unchanged and tissues important to preserve are thereby frequently destroyed.

A complete dissection of the deformed hemorrhoidal plexus, as advocated by Mr. Whitehead, offers in my judgment abundant reason for adoption; and the only criticism which I have to make on his method is the closure of the wound with interrupted sutures. This method has been severely criticised and has failed in great measure of general adoption because of the fear of hemorrhage which, during the indefinite past, has been emphasized as liable to pertain to any of the methods applicable to the cure of hemorrhoids. This is doubtless greatly overestimated by the profession at large.

The dilatation of the hemorrhoidal plexus is indeed sometimes truly enormous; but it will be found on dissection that the vessels within the grasp of the sphincter are usually very little changed and that here their constriction is simple and easy. I have for some years operated in a way to be commended as in large measure bloodless and assuredly without danger of subsequent hemorrhage.

The procedure is briefly as follows: The sphincter muscle is dilated and the parts put on tension by two fingers in the rectum. Either with a sharp knife or scissors division is made on the line of the juncture of the skin and mucous membrane. With a little care the veins are separated from the loose folds of connective tissue without injury, down to the line of the sphincter muscle. They will be found closely connected with the everted thickened mucous membrane, a portion of which it is well to remove. Division should be made through it on the line selected for excision and a row of continuous double tendon sutures rapidly made to encircle the base of the hemorrhoidal plexus. It is then resected with scissors and a light line of continuous running sutures encloses the deeper layer, and when drawn on, gently taken, as advised, from within outward, are themselves buried, thus leaving no stitches in sight. Carefully dried and dusted with iodoform, the operation is completed by painting the line of closure with a layer of iodoform collodion. It is usually better that three or four days elapse before defecation ensues, after which there is little suffering. With the paralyzed muscle at rest and the condition of the parts remaining aseptic, pain and edema are almost entirely wanting and the contrast between the suffering and too often defective result pertaining to the measures usually in vogue is so marked that I can not help thinking that he who gives this method of operation a careful trial will abandon all others for the cure of hemorrhoids.

BURIED SUTURES AND LIGATURES.

THEIR MATERIAL AND PROPER USE.*

WALTER B. CHASE, M.D.

Visiting Surgeon Bethany Deaconesses' Hospital, Consulting Obstetrician and Gynecologist to the Long Island Hospital; Consulting Gynecologist to the Nassau Hospital and the Jamaica Hospital.

BROOKLYN.

As the use of buried sutures and ligatures constitutes an important part of most operative procedures, their selection and application is of far-reaching consequence. To some these considerations seem so elementary as to be unworthy of more than passing notice, but to my mind they are so fundamental in their relation to the domain of operative surgery as to demand such critical examination as will lead to their safe employment. In fact, the outcome of most cutting operations will fail in the full measure of their beneficent purpose, in the proportion which the operator fails to comprehend the scientific basis of their employment.

It is universally conceded that simplicity in the art and technic of surgery is the purpose and endeavor of those who stand as its best representatives, and that, other things being equal, a close adherence to these principles marks the radical difference between the successful and unsuccessful operator.

It is within the remembrance of many of the members of this Association when silk was practically the only substance employed for both ligatures and sutures. The evolution in practical surgery which has revolutionized the whole method of procedure arises from a proper appreciation of a germ theory in the application of aseptic and antiseptic methods. As a rational outcome of this evolution we note a gradual but increasing tendency to the use of absorbable material for buried ligatures and sutures. The supposed conservative tendency to cling to silk and other unabsorbable material has arisen in part, I believe, from a misconception of the purposes of sutures and ligatures *per se*, and this misconception relates primarily and principally to the time they serve a useful purpose in their application.

There has been a widespread belief (the legendary influence of which seems not wholly to have lost its dominant sway) that the occlusion of an artery or vein by ligature was due more to the continued presence and pressure of the ligature than to the unseen plastic changes in the structures incident to its application. This fallacy finds unconscious expression in the assumed, if not the asserted, belief that the safety of occluding a blood vessel by ligation bears a close relation to the tightness with which it is applied. Doubtless most, if not all, of my hearers, in their operating-room observations, over and over again watch with surprise and pain the effort of the sturdy operator to ligate a small or, perchance, a large artery so securely as to break his ligature once and again, and then with righteous indignation condemn the weakness of the material and congratulate himself on his timely discovery of its brittleness. From the surgical and practical standpoint it is safe to assume that more ligatures are tied too tightly than too loosely. When a severed blood vessel is permitted by the surrounding tissue to retract and contract, it is surprising how little circular pressure by the ligature is amply sufficient to prevent hemorrhage. Tying too tightly tends to premature destruction of the vein or artery and predisposes to the risk of secondary hemorrhage by cutting its walls. There is little doubt that many and probably most of the secondary hemorrhages following laparotomy or other operations arise from this cause. By undue pressure of the ligature the accident which was hoped to be averted has been induced.

We might spend a moment profitably in recalling exactly what happens to a blood vessel on the application of the ligature. The circular pressure incident to its application arrests the blood current, but it does more. It severs the inner structure of the artery, which retracts and turns inward and thereby promotes the formation of a clot and the exudation of plastic material, by which the physiologic closure of the vessel is accomplished. The time required for plugging the vessel will depend partly on its size and partly on the plasticity of the blood and the resulting exudate. If the circular pressure cuts the inner structure of the vessels only, the time required to effectually close the vessel against risk of bleeding is surprisingly short. Most small vessels, if properly tied, will become effectually occluded in a few hours, while a ligature which lasts from three to five days usually gives all the safeguards of one lasting double that time. There is, *per se*, no objection, in many cases, to ligatures which last a longer period, but there are few contingencies which will require the use of unabsorbable material. An unabsorbable ligature is ever and always a foreign body and an ever-present menace to pain, ulceration, suppuration and possible sepsis. Its danger is not only apparent, but real, and the risk so imminent that every consideration of safety should preclude its unnecessary use. If any comments were required to demonstrate the risk of such ligatures, it would be easy to refer to multitudes of cases in which sinuses, infections and mortalities were due to their use.

It is not very long since I heard a gynecologist of repute and standing declare, in exultation, that he had devised a hook which he could introduce through sinuses, occasioned by unabsorbed silk ligatures, and pull them out, thereby avoiding an operation for their removal—apparently oblivious of the fact that he ought never to have used them.

Possibly some one in discussing this paper may affirm that he has repeatedly used unabsorbable ligatures and that no bad consequences followed. Granted. I can not dispute the truthfulness of this statement; I only congratulate him on his escape from accident and express the hope that the future will bring him no disappointment.

So far I have not discussed the material best adapted for ligature. Sterilized catgut, plain or chromicized, and kangaroo tendon of proper size have all the advantages of other material. More than likely some other surgeon of large observation will quote his experience of infection and suppuration following the use of catgut and kangaroo tendon, and that is granted. But this alone is not proof that the catgut was the source of infection, unless carefully conducted culture made from the same gut demonstrates such to be the case. Unless such proof is elicited, it is more than probable that the infection was from the hands of the surgeon or nurse, or some other source apart from the catgut. The recognized difficulty of rendering the hands sterile is universally admitted. The bacillus of tetanus is the one which has perhaps provoked most comment in this connection, and, as its common habitat is the soil, it is not difficult to understand how easily it might reach the

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-eighth Annual Session, June, 1907.

field of operation by the hands of the operator, or nurse, or through the dressings. The demonstration by actual scientific tests of the perfect sterilization of catgut can not be gainsaid. So far as the risk of infection in its application to suture material is concerned, it may be affirmed with entire propriety that the same objection could be raised against silk or any other material. Catgut should always be taken from sterilized packages and any portion not used should be destroyed. The returning of catgut to a tank after being taken out for any purpose can not be too strongly condemned. The safer method is that each strand of catgut should be in its own original container. Doubtless the replacing of catgut in a container has been responsible for a multitude of infections which puzzled the operator and brought disrepute on the material used.

In tying large pedicles the same precaution should be taken as with other materials, such as a second encircling of the ligature around the pedicle, a reinforced stitch, or a transfixion or quilting of the pedicle to prevent slipping. The principles enunciated regarding the use of buried ligatures applies equally to buried sutures. In approximating opposing surfaces, where the distance is not too long and the tension from any cause not great, the advantages of running sutures over interrupted sutures is too apparent to require comment, and particularly is this true in layer suturing after laparotomy. The duration of catgut in the structures is not to be lost sight of. Plain catgut ordinarily lasts from three to ten days, but in muscular structures a shorter period; a chromicized gut from ten days up, according to the degree in which it has been chromicized. It is important to remember in this connection that catgut can be so over-chromicized as to render it unabsorbable and make it as objectionable as silkworm gut. The process of chromicizing catgut with reference to its duration in the bodily tissues is a matter of detail with the manufacturer.

In my own practice I have not used buried silk sutures or ligatures or any other unabsorbable material half a dozen times in twenty-five years, and my experience confirms me in the conclusion of the safety and superiority of catgut. During this entire period, in no case have I had secondary hemorrhage following laparotomy calling for reopening the abdominal cavity. Neither have I had occasion to operate for sinuses caused by their non-absorption. I attribute this immunity from hemorrhage more to the use of catgut and a moderate tying tension of ligatures than to all other causes.

Again, not a few operators employ too large catgut in the ligation of blood vessels. As previously mentioned, the constriction needful to occlude an artery is not so great as many believe. If any have doubts concerning this statement, they can test it at their next operation by compressing a severed artery between the thumb and finger, after giving it such opportunity to contract and retract as the tissues will allow, and they will be convinced of its truth. It is only the larger blood vessels that require a plain catgut above No. 1. To those who entertain a contrary belief, if such there be, who have relied on silk or silkworm gut, I would recommend the use of chromicized gut until they have gained confidence in the new departure, and soon the plain catgut will, with few exceptions, meet every demand of their critical expectations. One precaution is needful in the use of plain catgut which has doubtless innocently prejudiced some operators against its employment, namely, to finish the tying by an extra knot. This is made needful for two reasons. First, most catgut, when used dry or taken from alcohol or chloroform, is sufficiently hydroscopic as to absorb water, which increases the tension after tying and may cause a reef knot to slip; second, maceration of the ends of plain gut may be sufficient to induce slipping. With these precautions catgut is as safe as silk, as regards tying.

The reason for its superiority is found in its ready absorbability, which is not true of silk, which remains for a greater or less period of time within the structure, with possibilities for mischief for which there is no adequate compensation. If ever silk can be regarded as a safe or superior substitute for catgut it is in intestinal work, either for ligatures or sutures, and for sutures in delicate structures, and even here some of our most expert and successful operators prefer fine chromicized catgut in these structures, where they use it with uniformly satisfactory results. I desire to mention in this connection a reason why silk, under the conditions mentioned, should never be used as a ligature, and the same reasons apply with equal force to sutures. It frequently happens in operative work that it is necessary to use both ligatures and sutures in areas and in tissues which are already septic, and in diseased tissues where ulcerative and necrotic changes are imminent. Here only absorbable catgut should be used, as other material may outlast the structures to which it is applied and hamper if not complicate the results in the case, eventuating in sinuses or abscesses.

For the tying of large pedicles chromicized catgut is recommended as having the tensile strength and ability to resist the rapid absorptive power of the tissues before its work is completed. I desire in this connection to sound a note of warning to a rapidly diminishing contingent of operators who use metallic wire or silkworm gut as sutures. They thereby discount their technic as plastic surgeons and put a travesty on their work by the assumption that it will result in failure unless the parts are permanently supported by foreign bodies. The work of Bull and Coley in a report of failures in a large number of herniotomies, which appeared some years ago, a result, supplemented by the great body of operators, is such a comment on the dangers of buried unabsorbed sutures as ought, except in the conditions already mentioned, to consign such practice to oblivion. No operator of large experience, I fancy, can be found who has not been engaged for years in removing silk and silkworm gut, silver wire, etc., which acted as foreign bodies and occasioned sinuses, suppuration and avoidable infection.

Surgical traditions of the nineteenth and earlier centuries have not yet lost their spell on some timid souls. The causes for secondary hemorrhages and non-union of soft tissues can not longer be held as a justification for the employment of unabsorbable sutures. This proposition does not apply to use of silver wire as recommended by Mayo and used by other operators in great attenuation of the normal structures as found in umbilical hernia, or possibly in bone surgery.

There are one or two other points to which I wish to allude as pertinent to the scope of this paper. The first is the undue tension which many operators use in applying their sutures. Not satisfied with a reasonable degree of tightness, they increase the tension to such a degree as to endanger cutting through the tissues, or a resulting necrosis of soft structures included in them, a procedure that too often militates against primary union. If it is remembered that under many conditions, and in

some structures, swelling is likely to follow in the course of such sutures, the risk of the danger already alluded to will be better understood.

There is one other matter which demands special notice. Is chromicized catgut equally safe as silk in intestinal surgery? Concerning the reply to these inquiries, there are those in high authority who take positions diametrically opposed to each other, one holding to the belief and following the practice of using only silk as the safer material, the other claiming equal safety and success by the use of catgut.

The mooted point is, will fine chromicized catgut retain the approximation of intestinal suturing long enough for safe union? On inquiry and observation I find that a large number of operators in Greater New York rely on chromicized catgut for intestinal work, and their experiences amply demonstrate its safety. On the other hand, it must be admitted that fine silk finds with its adherents equal confidence. I believe that the lack of confidence in the use of all forms of catgut arose from failures, before the methods of its preparation were perfected, both as to the power of rendering it sterile and such treatment incident thereto as imperil its tensile strength. At the same time, as previously suggested, the reason why its use was discounted may and probably was a mistaken one, owing principally to faulty tying and the use of too large sizes, and that sterility of catgut was impracticable.

I am more and more impressed, as time goes on, with the uneventful and rapid recovery after operations requiring ligatures and sutures when only catgut is employed.

I count myself fortunate in the opportunity this occasion offers me of reaching so large a constituency, in the hope that what has been said will give a new impetus to American operators to adopt that course in applying sutures and ligatures as will, in my judgment and experience, ensure simplicity of technic and the most conservative ends to which all aspire.

SUMMARY.

To recapitulate, it is my desire to enforce the following propositions:

First.—It is demonstrated by practice and by bacteriologic tests that catgut can be uniformly rendered sterile and such treatment need not impair its proper tensile strength.

Second.—A wise selection of plain or chromicized catgut will secure blood vessels and pedicles and maintain proper approximation of surfaces for an ample period in which permanent union is established.

Third—Unabsorbable material for buried sutures and ligatures has no superiority over catgut and its use subjects the patient to avoidable and frequently serious complications.

Fourth.—The over-tense tying of ligatures and sutures is a serious and not an imaginary evil.

Fifth.—The only advantage that fine silk has over catgut, if such really exists, is in intestinal suturing, and that of very delicate tissues.

Sixth—Simplicity of application and safety of use leads me to urge on all operators the use of absorbable material for buried ligatures and sutures, within the limitations heretofore expressed.

[THE PAPERS OF DRS. MARCY, CHASE AND METCALF WERE DISCUSSED TOGETHER. THE DISCUSSION AND THE PAPER OF DR. METCALF WILL APPEAR NEXT WEEK.]

STOKES-ADAMS' DISEASE (HEART BLOCK).*

WILLIAM HOUSE, M.D.
PORTLAND, ORE.

DEFINITION AND HISTORY.

Stokes-Adams disease or Adams-Stokes disease, sometimes called heart block, may be defined as bradycardia, continuous or recurrent, accompanied by paroxysmal attacks or syncope, with or without convulsions.

It is eighty years since Adams of Dublin first described this condition. Twenty years later Stokes elaborated the description. The disease then seems to have sunk into a state of innocuous desuetude until 1893, when Huchard brought it to the attention of the profession, and in honor of the skilful clinicians who first observed it named it "Adams-Stokes Syndrome." Since then many cases have been described by various authors.

ETIOLOGY.

The disease occurs chiefly in males after the age of 30, the incidence increasing with the decades up to 60, when the frequency appears to lessen with the approach of senility. There has been a history of syphilis in some cases and in others a doubtful history. In the case here described alcoholism may have been a factor. According to the belief of many, arteriosclerotic changes in the bulb figure as the immediate cause of the phenomena. In one recorded case there was a history of injury to the cervical spine. There is still, however, great doubt as to the exact lesion responsible.

Sifted down, it appears that many observers, especially neurologists, have ascribed the symptoms to involvement of the pons or medulla. The internists and physiologists, on the other hand, incline to the belief that the trouble lies in the heart. They base their deductions partly on postmortem examinations, but more on laboratory experiment, wherein they have produced similar conditions in animals, so far, at least, as the bradycardia is concerned. By fixing a clamp on the hearts of certain animals (the rabbit and the tortoise) they have produced dissociation between the auricular and ventricular beats, such as occurs in many cases of Stokes-Adams' disease. It is notable that these experiments fail to explain certain of the curious cerebral symptoms which enter so largely into the clinical history of the disease. The theory of cardiac lesion alone will not satisfy the clinician, for it leaves too much to the imagination. Yet this theory is, in part, substantiated by the postmortem findings (apparently substantial evidence hard to overcome) wherein lesions varying from syphilis of the auriculoventricular septum to the alleged absence of the bundle of His have been found.

What is the bundle of His? Many physiologists believe the heart's action to be controlled, in whole or in part, within itself—that is, that it is independent of the brain. This is known as the myogenic theory of the heart's activity.

The auricle and ventricle are separated by a fibrous septum. Theoretically, in order that the rhythmic wave may pass across this septum, a muscular communicating structure is a necessity. Such a structure was first described by William His, Jr., and the description has since been confirmed by numerous physiologists. The auriculoventricular bundle of His is described by Retzer as approximately 18 mm. (¾ in.) long, 2.5 mm. (⅛ in.) broad and 1.5 mm. (1/16 in.) thick. His described

* Read at the meeting of the Oregon State Medical Association, July 12 and 13, 1907.

it as "a bundle of muscular tissue extending from the right side of the interauricular septum to the interventricular septum immediately below the *pars membrana.*"[1] From there it is distributed along the walls of the septum on both right and left sides of the heart. Along this tiny structure the motion wave passes, much as an electric wave passes along a wire. Mechanical devices used to act on this band, in dogs and rabbits, created dissociation of the auricular and ventricular beats in the ratio of two, three, four or more to one. This is exactly what happens in many, perhaps all, cases of Stokes-Adams' disease, and because of it the name heart block has been given to the disease.

Notwithstanding the apparent confirmation of the experimental by the postmortem findings, the bundle of His impresses one as a singularly inadequate structure for the performance of so important a function. To accept the dictum that lesion of this bundle, without reference to involvement of its nerve filaments, produces the heart block, undoubtedly present in most, if not all, cases of this disease, is to accept, in its entirety, the myogenic theory of the heart's activity, which has by no means been positively proved.

Those who incline to the belief that the lesion is in the pons or medulla have support in the well-recognized location of the cardiac and respiratory centers in the floor of the fourth ventricle. In observation of patients, many symptoms are presented which can best be explained only by the assumption of a lesion in the central nervous system. This assumption gains credence when one recalls the frequency of bradycardia from intracranial pressure, whether it be due to abscess, tumor, tuberculous meningitis or other cause. In investigating the reports of most of the cases, I find that little or no reference has been made to examination for symptoms indicating involvement of the nervous system. The pupils and patellar reflexes appear usually to have been overlooked, and it is probable that such evidence as they may have furnished has been ignored.

PATHOLOGY.

This remains to be established. Stengel, in his case, found, in addition to other changes of lesser importance, that "the lesion of importance was one on the anterior mitral leaflet, toward its base and aortic edge. This was a patch of atheromatous character, sclerotic and white, and it extended to the endocardium exactly over the bundle of His where this band passes from the ventricle to the auricle. . . . Viewed from the side of the right ventricle, the specimen does not show any evidence of penetration of the sclerotic process, but on the left ventricular side it is evident that the bundle of His was involved in the area of disease."

In Ede's series (quoted from the same paper) reference to the condition of the heart and vessels was made in thirty-one out of thirty-five cases that came to autopsy. In twenty-six of these, sclerotic and myocardial changes were observed. One of Ede's cases in which an autopsy was made by Councilman, according to Gordinier,[2] revealed no lesion. In one case reported there was a gumma of the bundle of His. Myocardial changes have been found in many cases, but there is nothing to show that they are not the result of the trouble instead of its cause. Somewhat vague reference has been made to changes in the vagi and also to sclerotic and degenerative conditions of the bulb. With this pathology we must be satisfied temporarily. The bulk of evidence points to heart lesion as the distinctive pathologic process, but the causative relation is far from being conclusively proved.

1. Stengel: Amer. Jour. Med. Sci., December, 1905.
2. Albany Med. Ann., June, 1906.

SYMPTOMS.

The essential symptoms are bradycardia and recurrent attacks of syncope or convulsions. The secondary symptoms are disturbances of digestion and respiration and alterations in the ocular phenomena. The bradycardia is distinctive. The pulse may persist at from forty to twenty or less a minute for long periods. It is usually full, and the arteries are said commonly to be stiff and tortuous. Recently, in nearly all reported cases, it has been found that the venous pulse has been faster than the arterial, the ratio being two, three or four to one. In one case verbally reported to me, the venous pulse was said to be 140, the arterial pulse being twenty. The auricle, of course, beats with the same speed as the veins, and when the venous rate is very high the condition has been spoken of as auricular fibrillation.

The seizures commonly exhibit the phenomena of syncope. They may resemble apoplexy or epilepsy. Their duration is from a few seconds to several minutes. They may be repeated two or three times a day or as many as 150 times. The suggestion of *petit mal* is inevitable until the case has been carefully studied, and it is safe to state that most cases have been diagnosed as *petit mal* when first seen, yet it is only exceptionally that the seizures are truly convulsive; rather they present the evidences of vasomotor phenomena—that is, simple faint. There is often an aura, especially of the epigastric type. The face then becomes pale and consciousness is momentarily lost. Sometimes the patient falls, at other times he recovers before losing balance. While unconscious the pulse may disappear at the wrist. In my case as high as twenty seconds passed without a beat, while in Stengel's case two minutes and ten seconds elapsed. The secondary symptoms are such as occurred in the case here described.

Patient.—J. H., male, machinist, aged 36, was born in the United States.

Family History.—His father died at the age of 87; his mother, who was a nervous, excitable woman, died at the age of 50 from empyema. One brother is living, aged 40; he is dissipated. One sister is living and well, aged 45. There is no history of organic nervous disease in the family.

Past History.—The patient had measles at the age of 10, a mild attack of malaria at 20, and gonorrhea, very severe, at 30. He denies the possibility of syphilis. He was given to sexual excess from 16 to 20 years of age, but never masturbated. From 20 to 28 he drank much whisky, becoming intoxicated two or three times a month; the sprees lasted only one evening.

Present Illness.—In the spring of 1899 he had some vague trouble with his stomach, during which he fell in a faint; this was repeated three years later; each time he was unconscious for several seconds. He was married in January, 1905. In March, 1905, he had a severe attack of influenza. One morning, during convalescence from this, while putting on his shoes, he fell on his face, unconscious. Similar attacks were repeated two or three times a week until June. During all this time the pulse was slow, often as slow as twenty-five beats a minute. During the latter half of June and the first half of July he averaged nine or ten attacks daily. He was always worse in the morning. He had mild insomnia. According to the patient's description of the seizure, he feels dizzy and everything seems far away. He then falls, usually on his knees, and quickly arises. The attacks are preceded by the sensation of a lump in the stomach and the face is pale. After attacks he is nauseated, but can not vomit. He thinks

that the muscles twitch at the outer angles of the eyelids during the seizure. Vision is not disturbed.

Examination.—Patient was under my care during two weeks in July, 1905. I saw him often for hours at a time, each day, and made the following observations: He is tall, slender and muscular. His appearance suggests the overtrained athlete. The skin is dark but not sluggish. All other organs were found normal except as hereinafter reported.

The following report is an abstract of that sent to Dr. W. C. Heussy, of Seattle, by whom the patient was referred to me:

Principal symptoms: (a) Frequent losses of consciousness; (b) bradycardia; (c) gastric aura, also at times sensation of choking, especially on the right side of the throat; (d) exaggerated and unequal patellar reflexes; (e) ocular symptoms.

The attacks are not convulsive; they present the evidences of syncope. They are preceded by facial pallor. During seizures the pulse can not be felt except at intervals of from 10 to 20 seconds. The duration of the attacks varies from five seconds to a minute or more. They are accompanied by contraction, and followed by dilatation of the pupils and marked flushing of the face; in other words, the phenomena are those of extreme vasomotor disturbance. The gastric disturbance hardly impresses one as an epileptic aura. It is a continuous sensation of weight in the stomach, which increases before an attack. It sometimes lessens when food is taken. When given bismuth and magnesia for three days it disappeared. It thus suggests the idea of hyperacidity. The patient would not permit examination of stomach contents, as the use of the tube brought on an attack. The pulse, afternoons, is usually full and regular and varies from 28 to 36. Mornings, it is extremely irregular, also at times in the evening. Just before the attacks it is very small and sometimes as slow as 10 a minute. The stethoscope does not reveal any beats not felt in both radials synchronously. There is a murmur at the heart's apex with the first sound, not transmitted, and varying in length and harshness at different times, but usually soft and short. The heart shows no evidence of enlargement, and one is compelled to regard this murmur as due, not to endocarditis, but rather suggesting myocardial change. Following attacks the pulse rises to 70 or 74.

The throat often becomes constricted, especially on the right side. This does not seem like globus hystericus, but bears a striking similarity to the sense of weight in the stomach, and the seeming tension in the heart as indicated by the slow, full pulse. These three symptoms indicate irritative involvement of the tenth nerve (using the throat as the localizing symptoms, indicate the right nerve). The involvement may be anywhere in the nerve so far as anything above related is concerned. The patellar reflexes are much increased, the left more so than the right. The entire body is acutely sensitive. There are no perversions of sensation except those of increase.

Ocular symptoms: These are of unusual interest and differ from anything found in the literature, except, possibly, the eye changes recorded in the Ashton-Norris-Lavenson[3] case, in which these observers found what they regard as arteriovenous aneurism of the right disc. The right pupil is slower in reaction than the left and, in a slightly darkened room, is considerably larger. The retinæ, examined by Gustave Bruere and W. L. Wood, exhibit curious changes. First, every pulsation of the heart can be counted in the vessels below and external to the discs. The right disc is blurred in its internal and lower aspect. All the vessels show a curious glistening whitish line in their centers, suggesting optic atrophy. There are no signs of optic neuritis. Vision is normal.

Diagnosis.—Taking into consideration the disturbances in the pupillary and patellar reflexes, and in the absence of any knowledge of the Stokes-Adams syndrome at the time the above analysis was made, I believed the cause of the trouble to be a new growth in the region of the pons irritating the right vagus, and probably aneurismal, although gumma and sarcoma were regarded as possibilities. The only alternative considered was arteriosclerosis of the bulb.

3. Amer. Jour. Med. Sci., January, 1907.

Subsequent History.—July 1, 1907, I received a letter from this patient in which he stated that he sometimes goes thirty days without a seizure, then has five or six, always in the morning hours, from 5 to 9. His pulse is never above 37. He is able to work hard. He said in his letter: "I can sometimes see the heart beat in my eyes." At the time he was under my care and for several weeks thereafter he was given mercurial treatment, and the question arises whether this, or the outdoor life which he voluntarily adopted, influenced the improvement, which did not come until after he had discontinued the mercurials in disgust. Potassium iodid he had been unable to tolerate, because it always appeared to precipitate attacks through gastric irritation.

At this point my examination halts, perhaps inexcusably. Whether or not there was a difference in the arterial and venous pulses is uncertain. Not knowing of the existence of this curious symptom at the time, it is possible that it may have been overlooked, but not probable, for the reason that thoracic aneurism was regarded as a possible cause of the trouble, and rigid examinations were made for the purpose of detecting pulsation in the veins of the neck, and also to determine differences in the two sides of the body.

In making the retinal examination it is almost certain that any difference in the venous and arterial rate would have been detected. I would suggest that the symptom of retinal pulsations be looked for in all these cases. The venous pulsation will naturally be more easily detected than the arterial, and may furnish a guide to the differentiation between the two rates that has sometimes been obtainable only by means of complicated and expensive apparatus, such as can only be found in unusually well-equipped laboratories.

Another remarkable feature of this case is the duration, the first seizure having occurred in the spring of 1899. Over eight years have thus elapsed since evidence of the disease became manifest, and the patient is to-day in at least as good condition, according to his own account, as he was two years ago.

Granting the probability that lesion of the bundle of His may be responsible for the bradycardia and heart block, there is no way of explaining the disturbances of the reflexes in this case, except by the assumption of a lesion of the central nervous system. Admitting that many of the cases coming to necropsy have exhibited a clearly-defined lesion of the heart, and especially of the bundle of His, it is not to be forgotten that the clinical disturbance may have resulted from interference with the terminal filaments of the vagus, and that, through the vagus, the peculiar manifestations of the disease may have been conveyed.

The necessity of accepting *in toto* the myogenic theory of the heart's activity is thus disposed of, and the apparently contradictory evidence of the postmortem table, and of some of the clinical phenomena (notably those which I have classed as secondary) are reconciled. In my case, for example, gastric irritants almost invariably brought on syncopal attacks, and the dictates of logic point to the belief that this result was induced through the medium of an already irritated pneumogastric nerve.

Accepting the views of the preceding paragraph, one is justified in regarding Stokes-Adams disease as the result of a lesion irritating the tenth nerve at certain points, causing bradycardia, with secondary or accompanying symptoms, depending on the location of the lesion in the course of the nerve.

313 Oregonian Building.

Clinical Notes

HEMORRHAGE FROM THE BOWEL FOLLOWING APPENDECTOMY.

J. R. JUDD, M.D.
HONOLULU.

The question of hemorrhage from the stump of the amputated appendix, treated by inversion and purse-string suture, was brought to the attention of the profession in 1904 by Dr. M. G. Seelig,[1] who quoted three cases of severe hemorrhage from the rectum following operation.

In a paper read before the Chicago Medical Society Dr. William Hessert[2] reported three cases of postoperative hemorrhage from the stump, with a fatal issue in one instance. In the discussion that followed four cases of hemorrhage were reported, with one fatality. In Dr. John A. Wyeth's paper entitled the "Technic of Appendectomy," read before the American Medical Association at the Fifty-eighth Annual Session,[3] a number of similar cases were reported, the purse-string method was considered unsafe and the ligature and the cauterization method was recommended.

A careful perusal of the above articles shows that postoperative hemorrhage has been observed when the following methods have been employed:

1. Dawbarn's method of purse-string suture and inversion (Fowler, Elsberg, Lund and others).
2. Dawbarn's method, plus crushing of stump with an entero-tribe before inversion (C. H. Mayo).
3. Crushing, ligature of crushed segment, inversion-purse-string suture (A. E. Halstead).
4. Appendix clamped and divided, stump disinfected, open end of stump closed by stitches and then inverted by purse-string suture (W. G. Nicholson).
5. Inversion with two rows of superficial sutures passed through the cecum around the inverted stump (La Place).
6. Appendix clipped off close to the level of the cecum and the stump rolled in and held inverted by two rows of silk or linen sutures (Deaver).

It appears from the above record that hemorrhage from the bowel has occurred a number of times after operations for appendicitis and that in the reported cases there are more instances of hemorrhage occurring when the purse-string method has been used than when other methods have been employed. In all the cases reported the cause of the hemorrhage has been laid to bleeding from a vessel or vessels in the stump. This has been fairly proved in some cases in which the abdomen has been reopened. In other cases it has been inferred.

The comparatively small number of cases reported, considering the enormous number of patients operated on, prompts me to report a case in my own practice:

History.—A man, aged 33, had had four attacks of appendicitis during the past two years. The last attack was two months before, and since then there had existed considerable tenderness in right iliac fossa.

Examination.—This showed a strong, well-nourished adult. The general condition was good; chest was negative; abdomen was flat, and there was tenderness over the appendix region on deep pressure. Urinalysis, temperature and pulse were normal.

Operation.—Chloroform was used followed by ether. McBurney's incision was made and the appendix was found free except for slight adhesions around the base. It was five inches in length and acutely congested. The mesentery was ligated with catgut, a silk purse-string suture was inserted and the appendix amputated. The stump was watched and no oozing was noticed. The stump was then inverted and the purse-string suture drawn up and tied. The abdominal wall was closed without drainage.

Postoperative History.—The patient recovered from the anesthetic, and, after slight vomiting, felt comfortable until eighteen hours after the operation, when he complained of severe abdominal cramps and shortly afterward passed by rectum about twenty ounces of bright red blood. The patient was rather pale and much alarmed and nervous. Pulse was 110 and rather small. He was given a hypodermic injection of morphin sulphate gr. 1/6. The following record shows the subsequent course: 18 hours after operation, passed 20 ounces of blood; 23 hours after operation, 12 ounces; 27 hours after operation, 1 ounce; 31 hours after operation, 4 ounces; 72 hours after operation, 7 ounces; 96 hours after operation, 6 ounces; 120 hours after operation, 6 ounces; 144 hours after operation, 2 ounces; total, 58 ounces.

The last four discharges were black in color, of tarry consistency and very foul odor. The pulse continued from 100 to 110 for three days and then gradually became reduced to normal on the fifth day. Some flatus was passed on the third day. There was considerable discomfort from gaseous distension of the bowels, but nothing was done to evacuate the bowels. On the sixth day there was a small bowel movement. The patient was allowed up in rolling chair on the sixth day and left the hospital on the eighth day. The wound healed by first intention.

Treatment.—Quiet, no food for forty-eight hours. Morphin sulphate gr. 1/6 by mouth every three hours for four doses. Bismuth subnitrate grs. xl and bismuth subgallate gr. xx every three hours for seven doses.

In this case the absence of any oozing from the stump was noted at the time of operation. It has always been my practice to clamp and tie with fine catgut any bleeding points before inversion of the stump. In this case it seemed incredible that such a hemorrhage should follow an operative procedure where the field was so dry, and in pondering over the subject it has occurred to me that some other explanation than bleeding from the stump is necessary to explain some cases.

Cases of hemorrhage from the stomach following operations on the head, urethra and extremities have been reported in a few instances, and a considerable number of such hemorrhages following abdominal operations are on record. There is little to be found in text-books on this subject, and the best description I have been able to find of this mysterious complication is in Moynihan's "Abdominal Operations." According to this author the different theories explanatory of this hematemesis are briefly as follows: 1, The anesthetic; 2, traumatism; 3, injury to omentum resulting in embolism of wall of stomach; 4, sepsis; 5, reflex nervous influence.

Why may it not be that in some cases of hemorrhage from the bowel following appendectomy there is a condition similar to that of hematemesis following abdominal operation—a condition not yet satisfactorily explained? This idea is supported by a case of Walch's quoted by Kelly in his book, "The Vermiform Appendix and Its Diseases." The patient, a man aged 40, was operated on three months after an attack of appendicitis. A ligature was placed around the base of the appendix. Six days after the operation the patient suffered from tenesmus followed by the sudden discharge of an enormous quantity of blood from the rectum; in addition he vomited from 300 to 400 c.c. of blood mixed with the contents of the stomach. Walch considered

1. Annals of Surgery, November, 1904.
2. THE JOURNAL A. M. A., Dec. 15, 1906, p. 2009.
3. THE JOURNAL A. M. A., July 13, 1907, p. 121.

that the hemorrhage arose from the slipping of a ligature.

The "slipping of a ligature" around the appendix as late as the sixth day could hardly be expected to be followed by such a hemorrhage and besides is not explanatory of the hemorrhage from the stomach. Kelly also cites a case in which hemorrhage from the bowels began four days before the patient was operated on and continued until the fifth day after.

CONCLUSIONS.

1. Hemorrhage from the bowel following appendectomy has occurred in a number of cases with various methods of treating the stump.

2. The purse-string suture is the most popular method and is most frequently employed. The greater proportion of cases of hemorrhage with the purse-string suture may be partly explained by the predominance of its employment over other methods.

3. Every case of hemorrhage from the bowel following appendectomy can not be explained by bleeding from the stump. Some of the cases may be explained by assuming a condition to be present similar to that producing hematemesis after abdominal operations.

A REPORT OF TWO CASES OF MYXEDEMA.

GORDON W. RICE, B.S., M.D.
CHAMPAIGN, ILL.

In view of the fact that the diagnosis of this disease in these patients had been overlooked for some time, and they thus deprived of early treatment, it might be of interest if the following were reported:

CASE 1.—*History.*—Mrs. E. O., aged 40, a resident of Galena, Ill., occupation housewife, height 5 feet 3 inches. There was nothing of importance in the family history; as a child and young woman she enjoyed good health, average weight 115 pounds. Married at age of 20; had no children and no abortions. She was healthy until the beginning of her present condition, which she noticed about the age of 33, when she began to increase in weight and to have severe headaches. She also suffered at times from indigestion and constipation. Continued to increase in weight for about two years, when she reached 187 pounds, and, to use her own expression, "had lost all resemblance to her former self." When I first saw her, February, 1904, she complained of headache, shortness of breath, amenorrhea, loss of memory, lack of interest in her work and surroundings. Her speech was slow and deliberate. Her replies to questions were slow, and, although an intelligent woman, it took her some time to put her ideas into words. She seldom perspired, said she was nearly frozen all the time during cold weather and enjoyed sitting in the sun during the hottest days of summer.

Examination.—Expression dull and apethetic, face large and round, eyelids heavy, lips and tongue thick, hair thin, dry and harsh, nails brittle and easily broken, teeth poor. General infiltration of the skin and masses of tissue beneath the chin and in the supraclavicular regions. The skin was dry and stretched and very adherent to the underlying tissue. It could not be pushed into wrinkles or folds and did not pit on pressure. Heart, lungs and genitourinary organs normal. Chemical and microscopic examination of the urine showed nothing abnormal.

Blood Examination: Hemoglobin, 80 per cent.; red cells, 3,800,000; white cells, 9,700. Differential blood count showed nothing abnormal.

Diagnosis.—Myxedema.

Treatment.—The patient was given thyroid tablets, beginning with one-half of a 5-gr. tablet twice daily and gradually increasing until at the end of one week she was taking one 5-gr. tablet three times daily. Under this treatment her headaches disappeared, her breathing became better, the bowels regular, and there was marked loss in weight. After two months' treatment she weighed 154 pounds and said she was feeling well. At this time, April 5, 1904, she went on a visit from the state and was lost sight of. Being advised that she should continue the treatment indefinitely in smaller doses, she replied that she did not want to lose too much flesh or she would have to make over all her clothes.

CASE 2.—*History.*—Mrs. A. C., aged 37, resident of Illinois. Grandmother on father's side had "paralysis," also a brother and sister of father. Otherwise family history negative. Personal history: Healthy during childhood and as a young woman; married at 19. Had two children, aged 17 and 11, respectively. Average weight, 120 pounds. About eight years previous to the time I was consulted she had an epileptic attack and was confined to her bed for one week. Several months after she had two more such attacks, but was not confined to bed with them. She complained of headaches, weakness and constipation. She was up and about her work almost all the time for three years, but was very irritable and nervous. In 1902 she began to lose the use of the right side and was unable to walk, complained of severe headache, nausea and vomiting after headache began. After about four months she regained the use of the right side and was able to walk and do some housework. In 1903 she noticed she was increasing in flesh, which continued until she weighed 157 pounds. The face became broad and plump, the lips slightly thickened, hair became coarse, dry and began to fall out. Teeth rapidly decayed, amenorrhea developed, headaches increased in frequency and severity, slowness of speech became noticeable, and she lost interest in her household affairs.

Examination.—When first seen, Jan. 5, 1905, the expression was dull and apathetic, the face broad and full, the cheeks slightly reddened, eyelids puffy, the neck thick and plump. In the supraclavicular regions there were rolls of tissue and general skin infiltration which did not pit on pressure. The skin was firmly attached to the underlying tissue and could be wrinkled with difficulty. The gait was slow and labored as though there were an inhibition of motor impulses. Her answers to questions were well formed, but came slowly, and one had the impression that he should repeat the question lest she failed to grasp it. The reflexes were normal. The pupils slightly dilated, but responded readily to light. Ophthalmoscopic examination showed the media clear and the fundus normal. The heart, lungs and genitourinary organs showed no abnormality. Temperature, 98 F. Urine negative.

Blood Examination: Hemoglobin, 85 per cent.; red cells, 4,100,000; white cells, 8,900. Differential blood count showed nothing abnormal.

Diagnosis—Myxedema.

Treatment.—She was given one-half of a 5-grain thyroid tablet twice daily. This was increased, and by the end of the first week she was taking one tablet three times daily. Her condition rapidly improved. Her headaches became less severe and less frequent, and by the end of three weeks she had made decided improvement. One month after beginning treatment she unduly exposed herself and pneumonia developed, from which she died on the third day.

I felt some timidity about asking permission to examine the thyroid postmortem, and failed to do so. Later in conversation with the husband I stated that I wished an examination had been made, and he said he would have been glad to have had it done. I thus missed the opportunity of confirming my diagnosis by pathologic finding.

In regard to the prognosis of this disease I wish to quote from von Mering[1] as follows:

It is chronically progressive, duration extending over many years, however, death rarely occurs from the disease itself, but from some intercurrent affection. Under the thyroid treatment the prognosis is good, but the treatment should be carried out in two stages. The patient should first receive sufficient of the desiccated gland or the glycerin extract to establish normal metabolism. This will vary with the individual both as to dosage and time required. In reports that I have been able to collect the time varied from six weeks to six

1. Lehrbuch der Innerin Medizin, p. 959.

months, and is said to have little effect in restoring the function of the thyroid gland. It is therefore necessary after normal metabolism has been established to continue the treatment indefinitely, but smaller doses are required in this second stage, and can only be determined by the condition of the patient.

A METHOD OF LIGATING THE APPENDIX WITHIN THE CECUM.

J. RAWSON PENNINGTON, M.D.
Professor of Rectal Diseases, Chicago Policlinic.
CHICAGO.

The following method of ligating the appendix is submitted because of the many recent reports of hemorrhage following this operation. The method consists in setting a snare within the cavity of the cecum to catch the appendix when the latter is inverted. This snare may be set with an ordinary straight needle by using the blunt end as a point, but it is not the proper instrument for this purpose. To do it effectively, and with the least danger to the patient and injury to the tissues, requires a special needle (Fig. 1) with an eye at its point.

It is assumed that the appendix is delivered without the abdominal cavity and that the mesoappendix has been ligated. Furthermore, that the circumference of the cecum is divided into thirds. The method is applicable in all ordinary cases of appendicitis, but not in those cases where the appendix can not or should not be inverted.

The corrugated-like depressions in the serosa, due to the tying of the appendix, and the points of puncture may be treated by Lembert sutures or enclosed in a purse-string suture at the discretion of the operator. The illustrations (Figs. 1 to 8) with their legends fully

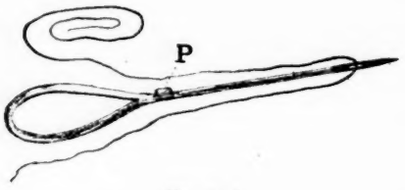


Figure 1.

Fig. 1.—Author's straight needle with the eye at its point. P, projection on the needle which serves to indicate the position of the needle in making the loops, A and E, in Figures 2, 3 and 4.

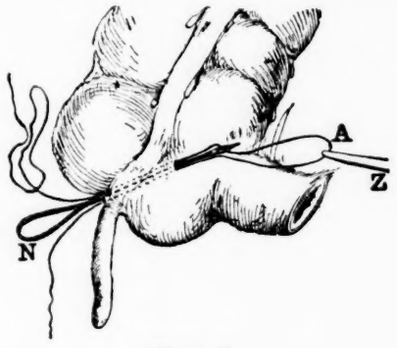


Figure 2.

Fig. 2.—Illustrates the insertion of the needle, N, carrying a silk or linen thread into the cavity of the cecum at the base of the appendix and near the mesoappendix border, and out at a point representing the first third of the circumference of the cecum and about one half inch below the base of the appendix, Z, a pair of forceps grasping the lagging end of the suture forming the first loop, A. (Always grasp the *lagging* end of the thread, i. e., the end opposite the direction in which the needle is traveling. To grasp the leading end is to invite defeat).

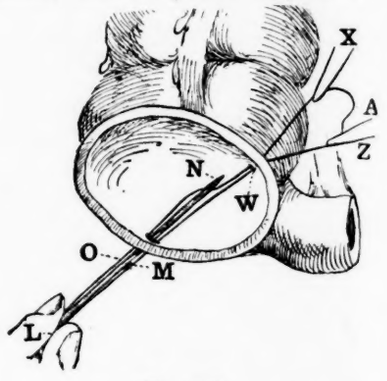


Figure 3.

Fig. 3.—Cavity of the cecum, its blind end having been cut away. The needle point is withdrawn into the cecal cavity *only*. Immediately on passing the needle through the cecal wall at W, the suture should be pulled through to make a large loop, A. The lagging end, M, and the leading end, O, of the suture, together with the needle should then be grasped by the operator at L, and the loop A, by forceps Z and X. Sufficient traction should then be made at Z and X, to make the lagging and leading ends of the suture taut between L and these points so as to facilitate the withdrawal of the needle through the wall, W, into the cecum. The forcep, X, should be released as soon as the needle point is within the cavity. Loop, A, is made extra large primarily because it is much easier to pull part of loop, A, back into the cavity in forming loop, E (Fig. 4), than it is to slip the needle on the thread within the cavity.

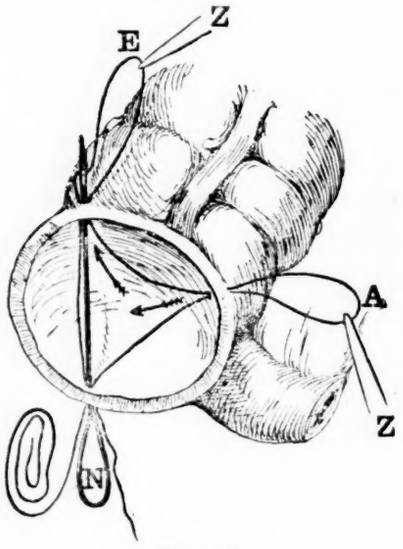


Figure 4.

Fig. 4.—The arrows show the direction the needle travels in forming loop E.

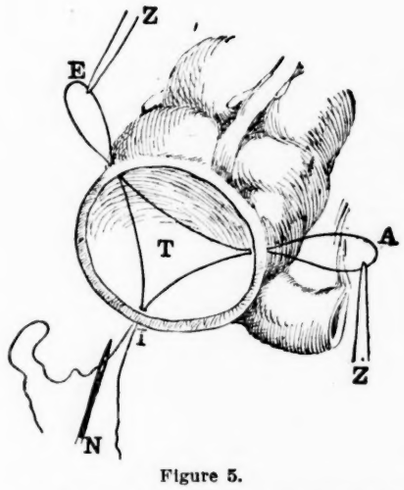


Figure 5.

Fig. 5.—The needle, N, is withdrawn. This leaves three punctures in the cecal wall, each containing a double thread, A, E, and I, of the suture so arranged as to form a triangle, T, within the cavity of the cecum.

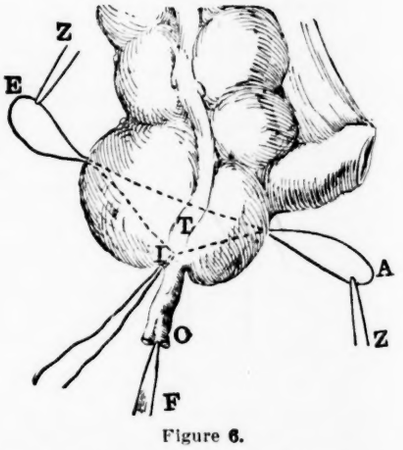


Figure 6.

Fig. 6.—The blind end of the cecum has been restored. The appendix, O, crushed and cut off about three-fourths or one inch from its base, carbolized, alcoholized and grasped with a pair of tissue forceps, F, and is ready to be inverted and carried into the cavity of the cecum and through the triangular snare. T, formed within the cecum, shown by the dotted lines from the three points, A. E, and I.

describe the details of the technic and it is unnecessary to enlarge on them here.

The advantages of the method are: Speed, simplicity and ease of operation; a minimum amount of danger to the surrounding tissues; no foreign body or material is left in the peritoneal cavity and the entire appendix and blood vessels being ligated the danger of hemorrhages is reduced to minimum.

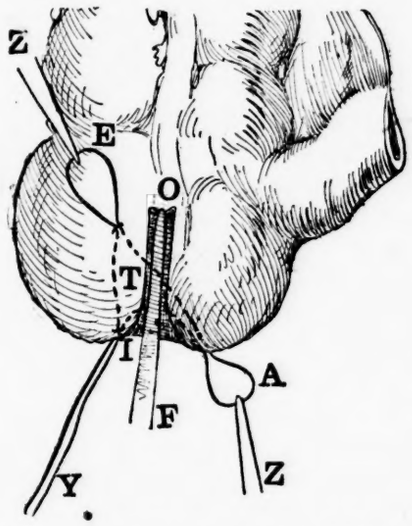


Fig. 7.—The operator holds the free ends of the suture, Y, and an assistant holds the forceps, Z. Z. until the appendix, O, is inverted and carried through the triangle, T. Then the loops, A and E, are released from the forceps, Z and Z, and the ligature, Y, is tightened and tied.

Fig. 8.—The last part of the knot has now been tied and the ends of the ligature cut short when the knot, with slight traction, slips into the cecum. The cecum resumes its normal contour and the appendectomy is complete with suture, knot, and appendix, all within the cecum.

Danger Signals in Anesthesia.—Johnstone, in the *Canadian Practitioner and Review*, states that dangerous conditions in anesthesia show themselves in the following ways: (1) Obstruction to respiration due to foreign bodies such as blood, mucus, loose teeth, congestion of the tongue, or fauces, spasm of the muscles of the neck, collapsing cheeks, laryngeal spasm, and general respiratory spasm. (2) Depression or failure of respiration. (3) Depression or failure of circulation. These last two effects, he asserts, may be due to the toxic action of the drug, reflex effect of the operation, or the physical condition of the patient. Depression and even failure of the circulation may arise from vomiting, but occurs more frequently with chloroform than with ether.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1675.*)

(*A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.*)

MONOTAL.

The methylglycolic acid ester of guaiacol,
$CH_2(O \cdot CH_3) \cdot COO \cdot (C_6H_4 \cdot OCH_3) = C_{10}H_{12}O_4$.

Monotal is prepared by the action of methoxyacetyl chloride on guaiacol.

Monotol occurs as a limpid, colorless oil, of a faintly aromatic odor easily soluble in alcohol, ether, benzol, and chloroform; difficultly soluble in water. It is soluble in about 6 parts of olive oil. It boils under 15 mm. pressure at about 156° C. (312.8° F.). It is split up into guaiacol and methylglycolic acid when treated with caustic alkalies.

Monotal is easily saponified by aqueous or alcoholic solutions of potassium hydroxide and then gives the reactions characteristic of guaiacol and methylglycolic acid. When incinerated on platinum foil it leaves no residue. Its watery solution is not rendered turbid by solution of silver nitrate. It has a specific gravity of 1.17 to 1.18 at 20° C.

Actions and Uses.—Monotal is said to give the systemic effects of guaiacol without having its caustic and poisonous properties. It is easily absorbed by the skin.

It is said to be useful as an analgesic for various painful affections, in phlebitis and in pulmonary tuberculosis.

Dosage.—2 to 4 Cc. (½ to 1 fluidram) rubbed in or painted over affected area once or twice daily.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 822339; U. S. trademark No. 62612.

PROTAN.

Protan is the word-mark for the H. K. Mulford Co. brand of

TANNIN NUCLEO-PROTEID, MULFORD.

Protan is said to be a chemical combination of casein with tannic acid containing about 50 per cent. tannic acid.

It is made by adding a solution of tannic acid to an alkaline solution of casein, collecting and drying the precipitate. Protan is a light brown powder, tasteless, and free from astringent action on the mouth and stomach; insoluble in water or dilute acids, and does not coagulate albumen or precipitate pepsin or peptones.

When shaken with water and filtered, a colorless solution should be obtained, which should give not more than a faint trace of color with ferric chloride solution, showing absence of more than traces of free (uncombined) tannic acid.

The resistance of Protan to the action of the gastric juice may be shown by mixing 2 Gm. (dried at 100 degrees C.) with 40 Cc. 0.2 per cent. hydrochloric acid containing ten times the theoretical amount of 1:3000 pepsin necessary to digest the proteid present, warming to 40 degrees C. for six hours, filtering off the residue, drying and weighing. 60 to 70 per cent. of the amount taken may thus be recovered.

The tannin may best be determined by difference, the casein being determined by decomposing it by the Kjeldahl-Gunning method, and estimating the nitrogen.

Actions and Uses.—It is employed as an intestinal astringent in all forms of diarrhea.

Dosage.—For infants and children, 0.3 to 0.6 Gm. (5 to 10 grains) every hour; in acute catarrhal diarrhea (cholera morbus), 1 to 2 Gm. (15 to 30 grains) every one to two hours; in chronic diarrhea, 1.3 to 2 Gm. (20 to 30 grains) every hour or two hours.

Manufactured by the H. K. Mulford Co., Philadelphia. Not patented. U. S. trademark No. 38616.

(*To be continued.*)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price.....Five dollars per annum in advance

[*For other information see second page following reading matter.*]

SATURDAY, NOVEMBER 30, 1907.

THE TEACHING OF PHARMACOLOGY.

We recently called attention to the ways in which pharmacologic laboratories can serve the profession. To the pharmacologists in the medical school comes another and most important function: the teaching of sound principles to the physicians of the future. Such teachers should not be expected to teach therapeutics; that belongs to the clinical chairs. Pharmacologists should be men in touch with the clinicians and should take a live interest in the problems of the latter; but they should not try to be clinicians themselves. It is impossible for one man to have the knowledge of chemistry and physiology indispensable to a real understanding of the relations of drugs to each other and to the organism and at the same time to be a skilled diagnostician and therapeutist. Rare, indeed, is the pharmacologist who can master his own subject.

The experiment of having clinicians teach pharmacology has received a thorough trial in this country. This experiment has contributed to the result that the medical profession in America has made scarcely a contribution to the improvement of the materia medica in the last forty years. Faulty teaching may have something to do with the fact that we find, on the one hand, a large number of physicians who are the dupes of unscrupulous manufacturers, and, on the other, a large number of therapeutic skeptics whose eyes are almost closed to the possibilities of progress. And, worst of all, there has been a loss of self-respect. Most of us are human enough to resent attempts to defraud us in the ordinary walks of life, but see with complacence and indulgence the skilful write-ups in the reading columns of our journals and the flagrant falsehoods in the advertising pages. Had there been in this country a group of trained men who could have examined and exposed the fraudulent nostrums when they first began to appear, these evils would never have reached their present magnitude.

The teacher of pharmacology in a medical school should have ample opportunity to follow his own lines of work, although they may seem to be leading to no practical results; we owe chloral to an attempt to determine "whether a substance is broken up into its constituent parts before it is oxidized." He should investigate, by the newer methods of physiology and chemistry, the details of the action of drugs in use. To such studies we owe much of our knowledge of digitalis; clinicians held this drug to be a cardiac depressant and indicated in aneurism, until animal experiments revealed its true action. The pharmacologist should teach the fundamental principles underlying the action of the great groups of drugs, how these actions are modified by the introduction of certain groups; on what structures they act, etc. Above all, he should endeavor to teach the student to think for himself; if a student could examine for himself one of the common proprietary remedies—if, e. g., he could see that a widely advertised nuclein preparation (to be given *per os*) contains at most but 1/1000 of a grain of nuclein in a "dose" and how thousands of times as much can be obtained from moderate amounts of a number of common foods; how he can obtain twenty or more "doses" of lecithin from the yolk of a single egg or one "dose" from a little shad roe; how no trace of a proteolytic enzyme can be found in some commercial enzyme preparations; how absolutely parallel is the depression of blood pressure, heart rate, respiration and temperature from chloral and some of its "safe" substitutes, he would probably begin his career with a little real wisdom which would prevent his relying, in after-life, on a certain class of manufacturers (or distributors) who take it on themselves to lecture the physician not only on the practice of medicine, but on physiology, pathology and even his duties to his patients. If, on the other hand, the student is given an opportunity of trying for himself the effect of a drop of amyl nitrite, or of a little digitalis or of suprarenal extract on the circulation, of theobromin on the kidney, of a good preparation of ergot on the uterus, of thyroid on metabolism, of secretin on the pancreas, etc., he can not fail to be impressed with the possibilities of drugs and will acquire some of that rational optimism from which alone progress can come.

It must not be inferred that the ambitious medical schools are not fully alive to the importance of this subject. In fact there are many indications that the time is rapidly approaching when all the leading medical schools will have departments of pharmacology. For some time only the University of Michigan, Johns Hopkins, and Western Reserve have had the distinction of maintaining chairs devoted to pharmacology exclusively (or almost exclusively—at Johns Hopkins pharmacology was for many years, perhaps still is, united with physiologic chemistry).

Recently the medical department of the University of Chicago has taken up pharmacologic work in a subdivision of its department of physiology known as the "Department of Experimental Therapeutics." This has been made possible through the generosity of a wealthy citizen of Chicago, who subscribed $25,000 to establish this department. This is an encouraging indication that we may hope in the near future to see other men of means promoting this class of work. We are informed

on good authority that at the present time at least half a dozen universities are seeking men to devote their time entirely to pharmacology; in some full professorships are offered. But in most cases these schools are unable to offer a sufficient salary or satisfactory facilities for work to make the positions attractive, although a more serious difficulty is that there are at present so few men who have had the long and expensive training necessary to qualify them for such work.

The professor of pharmacology should not practice medicine or patent his discoveries; the latter practice, recently suggested by an eminent physician, is productive of much harm, as is well known to those familiar with the history of certain new drugs. He should, however, be given a "living salary," as is already quite generally provided, by the best medical schools, for the professors of physiology, anatomy and pathology. He should not be expected to make a great discovery every year; the medical profession in all its existence has discovered scarcely more than a score of valuable remedies. If a man in his entire life can make a single contribution, such as the physiologists made in their discovery of the action of suprarenal gland extracts, he has not worked in vain.

SOME PRACTICAL FEATURES OF PROTEIN METABOLISM.

In view of the well-established fact that the chief source of heat and energy of the animal body, whether active or at rest, is in the carbohydrates and fats, the relatively considerable amount of protein food that is absolutely demanded by the body is a matter of considerable interest. It is also striking that the laying up in the body of proteins is, save in the growing young, accomplished only under exceptional conditions, and that the body seems to have no such place of storage for proteins as it has for the fats and carbohydrates. The amount of breaking down and building up of tissue cells that we can detect seems to be far too small to account for the amount of protein that is required, and yet so far as we know this is the only purpose for which proteins are indispensable. On the basis of his extensive observations on proteid composition and protein metabolism Abderhalden[1] has advanced numerous interesting suggestions concerning the career of the proteins of the food during digestion and assimilation that seem to furnish an explanation of these processes and also many other features of protein digestion and assimilation.

We know that the characteristics of different cells and tissues depend chiefly or solely on their proteins, and the proteins in turn differ from one another in the proportion of the various constituent amino-acids that they contain. Each class of animals has cellular proteins and blood proteins specific for its own kind, as shown by precipitin tests, and it is possible that the proteins of every individual differ in some respect from those of every other individual. Consequently, the conversion of the multitudinous varieties of proteins taken with the food into the constant proteins of the individual cells must require a most complete reconstruction of the food proteins. That the animal organism does succeed in performing this sort of reconstruction is shown, not only by every-day experience, but more exactly by the following experiment: A horse had its serum albumin, which contains but 1.5 per cent. of glutaminic acid, reduced to the lowest possible amount by repeated bleedings during a period of fasting, and then was allowed to regenerate the lost protein on a diet in which the sole protein constituent was gliadin, which contains about 36 per cent. of glutamic acid; yet it was found that the new-formed serum albumin contained no more glutamic acid than did the original substance.

The process of protein metabolism seems to begin with the following steps: In the intestine the proteins are split into their elementary constituents, the amino-acids, through the action not only of the trypsin, but especially by the erepsin of the intestinal mucosa. These amino-acids are resynthesized into proteins, and it seems probable that this process is accomplished by the cells of the intestinal wall, and the proteins resulting are those that are found in the blood serum. Now since the serum proteins have a very definite composition, which is very different from that of the food proteins, it is apparent that the organism can not utilize all the amino-acids liberated from the food-stuffs in the formation of serum proteins. To illustrate, take the case of the horse in the experiment just cited: Serum albumin of the horse contains about 1.50 per cent. of glutamic acid and 20 per cent. of leucin, whereas the vegetable protein, gliadin, contains 36 per cent. of glutamic acid and but about 6 per cent. of leucin; therefore, in the conversion of this vegetable protein into serum albumin a quantity of the former liberating enough leucin to supply this element to 100 grams of serum albumin would provide an excess of over 100 grams of glutamic acid. The excessive amino-acids that are furnished in this way by the food, and which can not be used by the organism for the building up of his own type of proteins are, it is believed, deprived of their nitrogen by the action of certain (desamidizing) enzymes, and the non-nitrogenous residue may then be available for furnishing heat and energy.

By this means the cells are provided by the blood with protein supplies of practically constant composition, and, as Abderhalden suggests, the intestinal wall may be looked on as the guardian of the chemical specificity of the individual. In this case it is easy to imagine that the intestinal wall might, under certain conditions, be unable properly to synthesize serum proteins, and from this might result serious disturbances in general metabolism; but significant facts are not yet accumulated to warrant this and many other hypotheses that suggest themselves. It can be readily seen from the above de-

1. Centralb. f. die ges. Physiol. u. Pathol. des Stoffwechsels, 1906, I, 225 and 497.

scription of the formation of serum protein, however, why the animal organism requires so much protein food, for it can only utilize of a given protein just such a proportion of the amino-acids as can be formed into body proteins; and hence if a certain food protein contains very much less of a single amino-acid than does the blood serum protein, only a small correspondingly amount of its other amino-acids can be utilized for the building up of tissue elements. It is also possible that there is a similar selective synthesis when the serum proteins are utilized by the different cells of the body, since the proteins of these cells contain proportions of the various amino-acids different from those of the serum proteins. These statements show a source of error that has existed in ordinary metabolism experiments and in the attempts that have been made to fix on the proper amount of protein food necessary in the human dietary, for it is evident that not all proteins can have the same value to the animal organism and, furthermore, their value can not be determined by their nitrogen content. A protein that yields very little serum proteins when its amino-acids are resynthesized in the intestinal wall can not replace in equivalent amounts a protein that yields amino-acids in more nearly the same proportion in which they are found in serum proteins.

It is indeed strange that this source of error has not been better appreciated, for physiologists have long known of a classical example of this kind in gelatin, which, because of its deficiency in two amino-acids, tyrosin and phenylalanin, can not supply the nitrogen demands of the individual, no matter in how large an amount it is given. From a substance like gelatin, entirely deficient in certain essential amino-acids, to such proteins as gliadin which contain excessive quantities of one amino-acid at the expense of others equally valuable to the animal economy, is but a difference in degree, and yet this important matter has not entered into our calculations in studies of metabolism. Also we meet with further evidence of the undesirability of a purely vegetable diet, for the vegetable proteins generally present much greater deviations in composition from serum proteins than do the animal proteins, and hence a dietary containing a proper amount of nitrogen in the form of animal proteins could only be replaced by a vegetable diet with a considerably greater proportion of protein nitrogen. The advantages of a mixed diet, containing proteins of varying composition, is also apparent, for the deficiencies in certain amino-acids of one protein may be replaced by a relative excess of the same amino-acids in some other protein. So, too, the new-born infant receives in its mother's milk proteins adapted to transformation into serum proteins with the least possible waste of nitrogenous material and the least possible waste of metabolic energy; when it is fed on cow's milk the amount of waste nitrogen probably becomes somewhat greater, and when it receives vegetable proteins there is thrown on its intestinal wall unusual duties in the way of destroying amino-acids that can not be utilized—a fact that may well be of clinical significance.

MUNICIPAL SANITATION.

Such sanitation as is based on well-formulated principles is really "the baby in the family of sciences." It was born, in fact, with Pasteur's demonstration that germs are the essential causes of infections, and with his declaration that it is within human power to banish all parasitic diseases from the face of the earth. Since his pronouncements the sanitation of large communities has been well-nigh revolutionized, as one may be convinced by Henry Jephson's superb work[1] on "The Sanitary Evolution of London," whose history in this respect is typical of every modern city.

Jephson recounts the memorable meeting held in 1850 to discuss how the dreadful and steadily increasing death rate of London could be checked. On this occasion Charles Dickens declared he knew of many places in that city which were "unsurpassed in the accumulated horrors of their long neglect by the dirtiest old towns under the worst old governments in Europe." It was no uncommon thing to find three or four families styed together in a room less than twelve feet square, when few houses had sewerage, and fewer still had a water supply, and even this was from the contaminated Thames. At this meeting there were those who actually had the temerity to declare that landlords should introduce water and sewer pipes into their houses and make their premises decently clean. It outraged the British sense of fair play that a man should be compelled to reduce the income from his property, even if tenants were dying off through his neglect. Since that memorable meeting the gains made in municipal sanitary science have been very encouraging. Truly, even now "vested interests," often backed in the ghastliest way by ecclesiastical influences, fight bitterly against the most righteous and humane reforms. Many compromises have still to be made with "disease, dirt and the devil;" temporary expedients require to be resorted to until public opinion will permit radical and really adequate measures.

Nevertheless, despite all these deterrents, sanitary science may well be proud of her achievements. Epidemics which used to be so fatal and so widespread are now known only by tradition. The problems of supplying food and pure water and of removing waste are being met on a prodigious scale. Municipal authorities are insisting on wholesome milk and are penalizing culprits in this regard. The spread of tuberculosis is being markedly checked by means of the registration of cases which health departments require. Tenement house departments are bringing about reforms which are humanitarian in the loftiest sense of the term.

We find modern cities crowded to-day in a way quite unprecedented; statistics show, for instance, that New

1. Published by T. F. Unwin, London.

York contains districts more densely populated than any other known region of equal area. But this, as Woodruff points out, is really a compliment to modern sanitary science, which has made possible the building of higher houses by adequate systems of plumbing and by the introduction of sewerage facilities into streets. Thus ten times or a hundred times the number of people can live in fair health in a place which was formerly fatal.

Sanitary science has purified rivers and closed infected wells (although we do still have our unnecessary typhoid epidemics); it has torn down houses, widened streets, built gigantic sewers, eliminated in great degree noxious trades, ventilated factories, purified bakeries and compelled pure food laws.

Practically all the large towns in the United States are in process of rebuilding, and it is most gratifying to observe how architects, builders and contractors on public works are earnestly consulting sanitarians in order that their combined labors may yield results both enduring and salutary. And model tenements are no longer the fad; they have become a municipal commonplace. "Philanthropy with 4 per cent." is not only wholesome altruism; it has become legitimate business propositions in Chicago, Boston, New York, Philadelphia, Washington and other large cities. We as physicians can not but exult in these measures making for prophylaxis and the betterment of the race; they content us mightily, however much they curtail our incomes.

LUKE THE PHYSICIAN.

Prof. Adolph Harnack, of the University of Berlin, who is known as one of the most distinguished of living critical historians of the period at the beginning of the modern era, has occupied himself not a little with various points of medical history. He is considered an authority on such matters of philology as throw light on the details of the history of Greek and Roman medicine. His historical writing has been taken up much more, however, with investigation of Christian origins than with medical matters. It happens, however, that his last book[1] is one that unites both these subjects, and competent critics have declared it to be one of the most interesting contributions to history of recent times. While in recent years some doubt has been expressed as to the authorship of the writings formerly attributed to Luke, and even more doubt as to the tradition that their author was a physician, Professor Harnack has declared his conviction of the truth of both of these points and gives incontrovertible arguments for them. These arguments are drawn chiefly from the words and expressions which are used in the original version of the writings attributed to Luke. Careful investigation of the vocabulary and style of the author show that the tradition as to his being a physician is true beyond all doubt. The language of these writings betrays inevitably the tongue and the mind of one familiar with the Greek medicine of the time. Attention has frequently been directed to this before, but never with so rich a wealth of illustration and erudition as on this occasion. As has been well said, the argument from philology has never received such skilful treatment as is given it by Harnack. It seems probable, then, that physicians who are interested in this earlier history, especially from its medical aspects, may still continue to cherish the old tradition, according to which one of their number was in that olden time an active factor in the introduction of the ideas of the fraternity of the human race into the world which took place some 1900 years ago.

1. "Luke the Physician." By Adolph Harnack, D.D., Professor of Church History in the University of Berlin. Translated by J. R. Wilkinson, M.A. The Crown Theological Library. Pp. 231. Cloth. Price, $1.50. New York: G. P. Putnam's Sons, 1907.

FREE ANTITOXIN IN ILLINOIS.

In the current *Bulletin of the Illinois State Board of Health* appear the details of the plan of antitoxin distribution made possible by the recent appropriation of $30,000 by the state legislature. The list of antitoxin stations in the state to the number of 101 is given. Antitoxin is to be supplied free of cost to all persons in the state who may need it; heretofore it has been supplied to the poor only. Antitoxin in packages of 1,000, 2,000, 3,000 or 5,000 units, with a special syringe, will be furnished on the application of the physician in attendance on the person for whom it is to be used. Arrangements have also been made with the University of Illinois whereby a laboratory will be established at the university for the purpose of making bacteriologic examinations. Massachusetts is the only other state which furnishes diphtheria antitoxin free to all its citizens, rich and poor alike. Massachusetts furnishes antitoxin only, while Illinois furnishes both antitoxin and syringe, ready for immediate use. The action of the state legislature in appropriating money for this purpose is an evidence of progress that ten years ago would have been considered impossible. It is an evidence also of better things in medicine in the future, and especially it is a hopeful sign that in time public aid will be rendered to efforts for preventive medicine.

MEDICAL EDUCATION IN CANADA.

The present situation of medical education in Canada is summarized in a most interesting manner in an editorial in a recent number of the *Canada Lancet*. The striking peculiarity about Canadian medical education is that all medical teaching is done by the universities. There are seven universities in Canada, with eight medical schools (Laval University having a medical department in Montreal and one in Quebec). Two of the seven universities—Toronto and McGill—require a five-year medical course, and it is anticipated that the others will soon make the same provision. Commenting on the situation, the editorial says: "In the gradual evolution of medical education the earlier condition was that of a medical school owned by several persons who gave lectures and paid the running expenses and remunerated themselves out of the fees collected. This state of affairs was the only one possible at one time, as public opinion had not reached that degree of advancement that would

induce the universities to create medical faculties." Evidently Canada, in some ways, is ahead of the United States, since we have not yet reached the point where medical education is recognized as a proper function of the state. The developments of the last few years would indicate that if we do not reach the plane which Canada has attained through political means we may reach it for economic reasons, since the modern medical college must spend more money than it earns and must consequently be endowed either by the state or by philanthropists. Recognition of the fact that medical education is a public function and not a private one will solve many of the problems of former years.

APPROPRIATE MEMORIALS.

According to newspaper reports, Mr. William Dinsmore and his sister, as a memorial to their father, have given to the village of Staatsburg, New York, a complete system of waterworks. It is to be hoped that this report is true, since it is difficult to imagine anything more befitting as a memorial of a good citizen than a system which will furnish pure water to the public. The time is long since passed when the erection of a hospital as a memorial is considered unusual. How much more appropriate as a monument is a gift which will result in the prevention, rather than one which will be for the cure, of disease. Still more is it to be hoped that the day will soon pass when costly tombstones of marble or granite or other semi-barbarous monuments are erected as memorials by the wealthy. A gift which will conserve human life and health and protect property, that will make the life of the poor more worth living, is much more befitting as a memorial than any tomb or shaft, however imposing it may be.

ANOTHER METHOD OF DESTROYING PLAGUE RATS.

Sir Lauder Brunton is responsible, or the reporters have made him so, for the "unorthodox" (as it might be called) suggestion that if the Brahmins could persuade the Hindoo natives of India that the sacrifice of a dead rat as often as possible to Kali, the goddess of destruction, would avert pestilence, rats would very soon be destroyed and plague be at an end. To the average Anglo-Indian this idea would probably not seem especially out of the way. The average man sees no harm in utilizing the religious superstition of the natives for their temporal salvation, but how about the medical missionaries, on whom must largely depend the influencing of the native mind in matters of medicine and hygiene? It is not probable that there will be any attempt to follow out this suggestion, but an interesting opportunity for casuistry would be afforded if it were.

DOGMATISM IN MEDICINE.

The recent action of the Philadelphia County Medical Society in opening its ranks to all legally qualified reputable physicians who repudiate exclusive dogmas has not been received in the best temper by some officers of the local homeopathic organization, which has taken occasion to reiterate specifically by resolutions its faith in the exclusive laws of cure. Considering the fact that probably not one in a hundred of the members of the body persistently follows out the Hahnemannian theories in his practice, its action is the more significant. It makes very little difference, however, whether the resolutions were passed or not. Only the progressive men in all schools are wanted for recognition, and such are coming over to rational medicine all the time, and the worthiest element in the membership of the homeopathic medical profession will find its way, sooner or later, into less narrow and more scientific associations. The element in the laity to whom homeopathy is a sort of religion is decreasing and will ultimately disappear, and with it the reason for the existence of the special homeopathic school.

Medical News

GEORGIA.

New Sanitarium.—The Oglethorpe Sanitarium, for medical and obstetric cases, has been established in Savannah by Dr. John W. Daniel at a cost of about $30,000.

Personal.—Dr. William S. Elkin, Atlanta, has been appointed chief surgeon of the Atlanta, Birmingham & Atlantic Railway. ——Dr. George T. Miller, Americus, has moved to Macon.—— Dr. Frank Cato, Americus, has returned from the Pacific Coast.

Kelly at Atlanta.—Dr. Howard A. Kelly, Baltimore, spent from October 31 to November 2, in Atlanta. He made an address on the former date on the subject of "Christian Work Among Doctors and Medical Students," and on the following day he gave two clinics.

INDIANA.

Journal Changes.—The *Fort Wayne Medical Journal-Magazine*, after twenty-five years' existence, is to cease with the December issue. Dr. Albert E. Bulson, editor of the journal for many years, is to become editor of the new journal established by the council of the State Medical Association to take the place of the transactions. It will be published in Fort Wayne, with Dr. Bulson as editor and business manager, and Dr. Benjamin P. Weaver as assistant editor. The publication will be known as the *Journal of the Indiana State Medical Association.*

Diseases and Deaths.—During October the most prevalent malady in the state was typhoid fever, which was reported as existing in every county. The prevalence of diseases was as follows: Typhoid fever, bronchitis, tonsillitis, rheumatism, pneumonia, influenza, diarrhea, intermittent fever, scarlet fever, inflammation of the bowels, measles, dysentery, cholera infantum, typho-malarial fever, whooping-cough, chickenpox, smallpox, puerperal fever and cerebrospinal meningitis. Consumption caused 304 deaths during the month: pneumonia, 160; typhoid fever, 140; cancer, 113, and diphtheria, 34.

IOWA.

Personal.—Dr. William Neuzil, Iowa City, has been appointed assistant surgeon of the Iowa Soldiers' Home, Marshalltown, vice Dr. Evahn R. Walker, Keokuk, resigned.——Dr. E. Luther Stevens, Des Moines, who has been critically ill with appendicitis, is reported to be improving.

Scarlet Fever and Diphtheria.—Scarlet fever is reported to be epidemic five miles southwest of Marshalltown, in Timber Creek Township.——Diphtheria in mild form is prevalent in Council Bluffs and a spread of the disease is feared, as many cases are not diagnosed, and the patients are allowed to mingle freely with their fellows.

Medical Society Meetings.—The Council Bluffs Medical Society has elected the following officers: President, Dr. Ray B. Tubbs; vice-president, Dr. Thomas B. Lacey; secretary, Dr. Newton J. Rice; treasurer, Dr. Frank W. Dean, and censors, Drs. James H. Cole, James M. Barstow and Donald Macrae.—— At the thirteenth annual meeting of the Northwestern Iowa Medical Association, held recently at Wall Lake, Dr. George W. Murphy, Danbury, was elected president, and Dr. Giles C. Moorehead, Ida Grove, was re-elected secretary.

KENTUCKY.

College Opening.—On November 1 the amalgamated University of Louisville, Medical Department, and Kentucky University, Medical Department, opened for its first session. The first lecture was delivered by Dr. Leon L. Solomon.

Tuberculosis Sanatorium Opens.—The sanatorium of the Kentucky Anti-tuberculosis Association at Hazelwood, near Gales Station, was formally opened October 26. The chief address was delivered by Dr. David Russell Lyman, medical superintendent of the Gaylord Farm Sanatorium, Wallingford, Conn.

Medical Library Project.—Dr. August Schachner, chairman of the Jefferson County medical library committee, has made a systematic canvass of the medical organizations of Louisville to raise funds for the library project. Quarters have been donated in the Atherton building for one year, and the library of the late Dr. David W. Yandell will form the nucleus for the library.

Personal.—Dr. Philip R. Taylor, formerly dean of the Hospital College of Medicine, Louisville, has gone to Japan for a rest of a year.——Dr. Walter F. Boggess has been elected associate director of the Louisville Hospital College of Medicine.——Dr. Jackson B. Taulbee, Maysville, has moved to Joplin, Mo.——Dr. John O. Taylor, Paducah, is recovering after an operation in the Illinois Central Hospital.

LOUISIANA.

Correction.—Dr. Oliver L. Pothier announces that the report of his resignation from the Charity Hospital, New Orleans, is erroneous.

Sanatorium Opens.—The Tuberculosis Sanatorium established by the Louisiana Anti-Tuberculosis League in St. Tammany parish is ready for the reception of patients. Eight cottages have been provided and are now being furnished.

Medical School Opens.—The formal opening of the Medical Department of the Tulane University of Louisiana, New Orleans, took place October 31. Dr. Abraham L. Metz, professor of chemistry and jurisprudence, conducted the proceedings.

Personal.—Dr. and Mrs. Charles J. Lopez, New Orleans, have returned from Point Loma, Cal.——Dr. Julius Crisler, New Orleans, has been appointed assistant surgeon at the State Hospital for the Insane.——Dr. Marion Souchon has been elected house surgeon of the Hôtel Dieu, vice Dr. Hampton S. Lewis, resigned.

MARYLAND.

Personal.—Dr. Peter W. Hawkins, La Plata, celebrated his golden wedding anniversary November 12.——Dr. Elijah White, Poolesville, was accidentally shot by his brother while hunting, November 12, and was taken to Baltimore for treatment.——Dr. Joshua W. Hering, Westminster, has been elected comptroller of the state.

Baltimore.

Grenfell in Baltimore.—Dr. Wilfred T. Grenfell addressed the Baltimore Branch of the Grenfell Association on his work in Labrador, November 22. He also addressed the medical students and nurses at Johns Hopkins Hospital.

Water Sterilizers for Schools.—In accordance with the warning of the health commissioner, it has been decided by the school board to equip each of the public schools of the city with a sterilizer, having arrangements for the boiling and sterilizing of drinking water.

Personal.—Dr. Justus N. Ehlers has purchased the homestead of the late Dr. Andrew J. Smoot, on the Wicomico River, in Charles County.——Dr. Albert J. Underhill has been reappointed surgeon of the fire department.——Dr. Thomas L. Richards has been appointed assistant commissioner of health and quarantine officer of Baltimore, and will be on duty at the quarantine station, Curtis Bay.——Dr. Arthur M. Shipley, superintendent of the University Hospital, has been called to San Francisco.

Consumptives' Sanatorium.—Mr. Victor G. Bloede has offered $25,000 for the erection of a building at the Eudowood Sanatorium for Tuberculosis, for the treatment of advanced cases of the disease, on condition that a fund sufficient for maintenance of the building for five years is raised. It is estimated that $15,000 a year will be required for the support of each branch, and a movement is on foot to raise the $30,000 required. The present capacity of the institution is 53 patients, but with the new addition 88 patients can be accommodated. Extensive improvements are now being made, including two wings, one for entertainments and the other for an infirmary, at a cost of about $40,000, provided by the state appropriation of 1905, and the subscriptions raised last year.

Health Department Appointments.—The following appointments have been made by Dr. James Bosley, commissioner of health: Health wardens, Drs. Oscar L. Long, H. E. Laroque, A. Palmisino, Henry K. Gorsuch, Joseph E. Heard, John T. Spicknall, Thomas J. Simms, J. William P. France, Charles T. Buckner, Eugene H. Hayward, Nathan E. B. Iglehart, Edward A. Munoz, Vernon F. Kelly, William Caspari, William DeF. Olmstead, George B. Scholl, George W. Hemmeter, Robert A. Warner, Marshall G. Smith, Henry J. Hahn, Alexander E. Muse, J. E. Poulton, Clarence P. Erkenbrach and Leonard J. Turlington; throat inspectors, Drs. W. B. Stubbs and J. Charles Beck; medical examiners, Dr. Nathaniel G. Kierle, and assistant, Dr. H. G. Branham; assistant bacteriologist, Dr. T. M. Wright; medical examiners of schools, Drs. H. Warren Buckler, Isham R. Page, J. Howard Iglehart, Gustav A. Thiede and Richard A. Urquhart; assistant quarantine physician, Dr. Thaddeus W. Clarke.

MASSACHUSETTS.

Communicable Diseases.—The first case of smallpox in Fall River in four years was reported November 13 in a patient who arrived with her husband and son from Europe, October 26.——Rockland is reported to be suffering from diphtheria and the Church Street school has been ordered closed on that account.

Personal.—Dr. Robert W. Hastings has been promoted to be assistant professor of children's diseases; Dr. Charles M. Whitney to be assistant professor of genitourinary diseases, and Dr. Robert M. Merrick to be instructor in children's diseases in Tufts Medical School.——Dr. Walter F. Adams has resigned as medical inspector of schools of Waltham.——Dr. Charles E. Woodbury, superintendent of the State Hospital for Dipsomaniacs, Foxboro, has resigned.

Death Rate Less.—The report of the Massachusetts State Board of Health for 1906, just issued, shows a decrease in the death rate as compared with 1896, from 19.30 to 16.81 per 1,000. The best showing was made in tuberculosis, smallpox, diphtheria, scarlet fever and dysentery. Diphtheria had a reported mortality of only 2.2 per 10,000 inhabitants, and tuberculosis only 32.7 per 10,000. It is stated that 184 towns and cities, containing 93 per cent. of the population of the state, have approved water supplies, there being only 7 with population exceeding 3,500 who are without such supply. During the year 7,530 samples of food and drugs were tested, and as a result 409 prosecutions were brought.

NEW JERSEY.

Hospital Notes.—Parker Hospital, Raritan Landing, was formally opened November 23. Five days prior to the formal opening two patients were admitted to the hospital.——The Union County board of freeholders has appropriated $8,000 to the Elizabeth General Hospital; $3,000 to the Alexian Brothers' Hospital; $3,750 to St. Francis' Hospital, and $5,250 to Muhlenburg Hospital, Plainfield.

Personal.—Dr. Henry M. Weeks, medical director of the New Jersey State Village of Epileptics, Skillman, has been chosen superintendent of the new State Hospital for the Feeble-Minded and Epileptics, Spring City, Pa.——Dr. William H. Hicks, medical director of the South Orange Hospital for the Insane, has resigned.——Dr. Andrew F. McBride has been elected mayor of Paterson.——Dr. Ralph R. Charlesworth, Millville, has been elected coroner of Cumberland County, and Dr. Charles B. Neal, Millville, has been selected as his deputy.

NEW YORK.

Smallpox in Upper Part of the State.—There is at present a mild type of smallpox prevailing in Jefferson, Lewis and Oneida counties. About 100 cases have been reported and Dr. F. C. Curtis and John T. Wheeler, representing the State Health Department, have gone to Watertown to confer with the local health authorities regarding a strict quarantine.

Want More Pay.—All the hospitals of Buffalo combined in a petition to the city and county authorities for an increase in the amount allowed for the care and treatment of the indigent sick. Up to this time $4 per week was paid for infants and $4.50 for adults. As the average cost of maintenance exceeds $9 per week, it was found impossible to cast a burden which should be borne by the general tax fund on private charities, and so the city and county are asked to increase the rate to a flat rate of $7 per week. This would increase the tax rate by 5 cents for $1,000 of assessable property.

New York City.

Personal.—Dr. Walter Bensel has resigned as street commissioner, and will resume his former place as sanitary superintendent of the board of health.——Dr. Charles E. Bruce has been appointed a member of the board of education.

Harvey Lecture.—The third lecture in the Harvey Society course, by Prof. David Edsall, University of Pennsylvania, at the New York Academy of Medicine, November 30, at 8:30 p. m., is on "The Bearing of Metabolism Studies on Clinical Medicine."

Ferryboat Hospital a Success.—The ferryboat hospital for tuberculous patients, in operation from June 13 to October 31, which treated in that time 242 sufferers, has been declared a success by the Charity Organization Society. The consumptives were not accommodated at nights, but went to the boat each day, where they received three meals, besides medical treatment. Lounging chairs and wraps were also provided.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended November 16, 364 cases of tuberculosis, with 145 deaths; 331 cases of diphtheria, with 27 deaths; 261 cases of measles, with 5 deaths; 252 cases of scarlet fever, with 15 deaths; 123 cases of typhoid fever, with 20 deaths; 14 cases of whooping-cough, with 1 death; 4 cases of cerebrospinal meningitis, with 5 deaths; 162 cases of varicella, and 1 case of smallpox, a total of 1,512 cases and 218 deaths.

Accidents During October.—During October there were reported in the first district: 221 car collisions, 791 collisions with vehicles, 354 persons were struck by cars, 510 were injured boarding cars, 593 were injured alighting from cars, 603 employés were injured, and there were 1,794 other accidents. There were 47 persons killed, 15 had skulls broken, 9 had limbs amputated, 40 had limbs broken, and 80 others were seriously injured. Tnere were 4,866 accidents, an aggregate less by 336 than for the previous month.

Creameries in Good Condition.—The Health Department has completed its special inspection of the creameries along the New York, Ontario & Western Railroad and has found conditions very good and vastly improved over last year. Last year the producers and dealers could not understand the necessity for some of the requirements of the Health Department, and made special objection to the ruling requiring that the milk be properly covered immediately after being taken from the cow. The farmers seem to be pleased with the rules and no opposition was encountered. The greatest improvement was noted in Orange County, where a year ago some of the barns were impossible. Now they are in the best possible condition. It was found that the cows all along the line were getting better care than formerly. In fact, the investigation led to the conclusion that if milk is infected it is after it has been delivered to the consumer.

OHIO.

Fined a Second Time.—H. H. Martin, Gratiot, is said to have been fined $20 and costs for practicing medicine without a license, having been fined only a similar small amount at a previous trial. It is said that he is a graduate of the Eclectic Medical School of Cincinnati in 1904, but has not passed the state board examination, and that he pleaded guilty on both occasions.

Personal.—Dr. Louis Schwab has been elected member-at-large of the board of education of Cincinnati.——Dr. William H. Campbell, Cincinnati, has returned after an extended visit to the East.——Dr. Abraham W. Nelson has returned to Cincinnati after eight months' study in Baltimore.——Dr. Aloysius P. Renneker, Cincinnati, was thrown from his buggy November 8, in a runaway accident, and suffered concussion of the brain and numerous scalp wounds.——Dr. Frank C. Larimore, Mount Vernon, was operated on November 12 at Mount Vernon Hospital for gallstone disease.——Dr. James A. Miller, Pomeroy, in jumping from his buggy, fractured a small bone of the ankle. ——Dr. Jesse A. Van Fossen, Columbus, while on a hunting trip along the Ohio River, was seized with appendicitis, was brought to Columbus and operated on at the Grand Hospital, November 18.——Dr. Harry W. Horn and wife, Worcester, have returned from abroad.

PENNSYLVANIA.

More Ground for Hospital.—Additional ground for the State Hospital for the Insane at Norristown, amounting to 292 acres, was secured November 19 at a cost of $30,000.

Hospital Plans Approved.—Plans for the proposed State Hospital for the Criminal Insane, Fairview, were approved November 13, by the state lunacy commission. The institution will accommodate 450 patients.

State to Pay Vaccination Expenses.—It is stated that the State Board of Health has instructed Northumberland County authorities to pay the vaccination expenses of school children when it is claimed that the parents are unable to do so.

State Sanatorium for Consumptives.—Dr. Dixon, commissioner of health, has advertised for bids on plans for a state sanatorium for consumptives at Belle Alto, for which $1,000,000 has been appropriated by the state. Fifty frame cottages and pavilions are to be erected, each having accommodations for four patients. These will be so constructed as to meet all the requirements of tuberculosis patients. There will also be erected an infirmary building for 100 patients, a large central dining hall, buildings for employés and a large central laundry and bathhouse. The number of cottages will eventually be increased to 100.

Personal.—Dr. J. Frank Wallace, Norristown, has been appointed consulting dermatologist for the State Hospital for the Insane, Norristown.——Dr. Jonathan C. Biddle, superintendent and surgeon-in-chief of the Miners' Hospital, Fountain Springs, for 25 years, has resigned.——Dr. Edgar E. Shifferstein has been elected superintendent of the Panther Creek Valley Hospital, Tamaqua, and the following advisory board has been chosen: Drs. Charles B. Dreher, Tamaqua; Edwin H. Kistler, Lansford; Bertine S. Erwin, Mauch Chunk, and Jacob G. Zern, Lehighton.——Dr. William C. Le Comte, Bristol, injured his arm in a collision between his automobile and a carriage.

Birth Rate Law Tested.—Before a jury in the court at Wilkes-Barre, Dr. W. E. Pier was acquitted of the charge of failure to report births to the State Health Department. Dr. Pier refused to comply with the act of 1905. Dr. Pier in defending himself claimed that if a physician complied with the provisions of the act it would take a great deal of time, as the time of birth must be given, ancestry of the child, and its name. He stated that the name is not conferred on the child until some time after its birth, and to learn the names several visits would have to be made by the doctor. After the evidence had all been heard the jury, under instructions from the judge, acquitted the defendant.——Dr. Austin Best of Harrisburg, who was arrested charged with violating the birth return law, pleaded guilty to 20 violations of the act of 1905 requiring physicians to make returns of births to the local registrar of the State Department of Health. The women whom the doctor attended were present. In 19 of the cases the pleas were accepted and dropped on payment of costs, amounting to over $70. The twentieth case was held for court, where it is said Dr. Best will plead guilty and be fined. No question was raised about the law.

Philadelphia.

Disease Closes Schools.—During the week diphtheria has closed two schools in this city. The Haverford school, having a roll of 300 students, will be closed until after Thanksgiving Day, owing to an outbreak of diphtheria among the students. Dr. Abbott, chief of the health department, closed the M. Hall Stanton school November 20 as a precautionary measure against the spread of diphtheria, several cases having developed among the pupils.

Hospitals to Aid Consumptives.—During the past week two hospitals, the Presbyterian and the Medico-Chirurgical, have opened dispensaries for the treatment of consumption. Instruction will be given in the Presbyterian Hospital on Monday, Wednesday and Friday afternoons on the prevention and treatment of the disease. The work at this institution is under the direction of Drs. John H. Musser, Charles J. Hatfield and Sidney Repplier. At the Medico-Chirurgical Hospital the work will be in charge of Drs. James M. Anders and Judson Daland.

Health Report.—The total number of deaths reported for the week ended November 16 reached 428, as compared with 435 in the preceding week and 473 in the corresponding week of last year. The principal causes of death were: Typhoid fever, 9; whooping-cough, 4; diphtheria, 8; consumption, 53; cancer, 17; apoplexy, 14; heart disease, 53; acute respiratory diseases, 54; enteritis, 17; Bright's disease, 40; premature birth, 13; general debility, 14; old age, 5; suicide, 3; accidents, 24, and marasmus, 4. There were 239 cases of contagious disease reported, with 19 deaths, as compared with 222 cases and 14 deaths reported in the previous week.

Blockley Anniversary.—The Association of ex-Resident and Resident Physicians of the Philadelphia Hospital celebrated its twenty-first anniversary November 12. The members of the association met at the hospital in the afternoon and were shown, by the present internes, the improvements that have taken place. The association was addressed by Dr. J. Chalmers Da Costa, and in the evening an informal smoker was held at the University Club, at which addresses were made by Drs. Charles J. Swain, James B. Walker, Joseph S. Neff and Daniel J. McCarthy. The following officers were elected: President, Dr. Roland G. Curtin; vice-presidents, Drs. Horatio C. Wood and James B. Walker, and secretary, Dr. Edward R. Stone.

Societies Elect Officers.—At the annual meeting of the Philadelphia Society of Normal and Pathological Physiology the following officers were elected: President, Dr. Horatio C. Wood, Jr.; vice-president, Dr. Nathaniel Gildersleeve, and secretary, Dr. William H. F. Addison.——At the annual meeting of the Aid Association of the Philadelphia County Medical Society, November 16, the following officers were elected: President, Dr. George Woodward; vice-president, Dr. James B. Walker; treasurer, Dr. John B. Turner; secretary, Dr. Lewis H. Adler, Jr., and directors, Drs. Oscar H. Allis, John C. Da Costa, William M. Sweet, Roland G. Curtin, Samuel W. Morton, Alexander R. Craig, John B. Roberts, De Forest Willard and John B. Turner.

Hospitals Under Police Ban.—An order was issued by Director Clay of the department of public safety instructing the police not to take trolley accident cases to six of the city's largest hospitals. This order has caused considerable comment, and the hospitals falling under the action of the director are Jefferson, Medico-Chirurgical, German, Howard, Presbyterian and Polyclinic. The director refuses to reveal his motive for dropping these institutions as accident receiving stations, but it is intimated that the trouble has been caused by the work of hospital attendants who, it is asserted, aid "ambulance chasers" or "ambulance-chasing attorneys." If this order is allowed to go unmodified, it is charged that the public will suffer, because persons injured would necessarily be carried beyond institutions near at hand to hospitals at a distance.

Personal.—Dr. Joseph Neff, director of the Department of Health and Charities, is ill, but is slowly improving.——Dr. Wharton W. Hollingsworth is seriously ill in St. Luke's Hospital.——Dr. John H. Riera, formerly of this city, but who for the last ten years has lived in Nice, was operated on in the German Hospital.——Dr. J. Chalmers Da Costa has been suffering from an infected finger.——Dr. Louis Borsch, formerly of this city, but now of Paris, is spending a few weeks in this country studying the hospitals, with a view to getting suggestions for the American Hospital to be erected in Paris.——Dr. Alexander W. Biddle is visiting Bermuda.——Dr. Herbert Norris sailed for Europe, November 14.——Dr. Henry Leffmann was elected president of the newly formed alumni association of the Wagner Free Institute of Science, at the organization meeting held November 14.

Tuberculosis Exhibition.—The annual exhibition of the Pennsylvania Society for the Prevention of Tuberculosis was opened November 20 and the attendance was large. The number of people visiting the exhibition reached 4,675. The exhibition is open daily from 10 a. m. to 10 p. m. Addresses are delivered on tuberculosis every afternoon and evening, and the exhibition will continue until December 1. The exhibition shows the various forms of treatment of the white plague. Tents have been erected, showing the outdoor homes of tuberculosis patients, models of cabins and sick rooms, with appliances and accessories for the comfort of patients are shown, and the walls of the building are placarded with information. The center of the room shows the tents used in the Jewish Hospital and the Chestnut Hill Sanatorium for the care of tuberculous patients. A most striking exhibition is that made by the Visiting Nurses' Society. The Henry Phipps Institute in a complete exhibit illustrates the treatment as used by that institution. There is also a large photographic exhibition and this shows the sanatoria and camps at White Haven, Pa., and Otisville, N. Y. It also shows the day camp of Boston, dispensaries and laboratories in New York and Hebron, Maine, the Chicago Tuberculosis Institute, clinics for the Manhattan Society, and the Bronx and other institutions and municipal places of treatment. Kansas has an exhibit describing the symptoms of tuberculosis.

GENERAL.

International Congress in 1909.—The Sixteenth International Medical Congress will be held at Budapest, Aug. 29 to Sept. 4, 1909, the scientific proceedings being divided into 21 departments. The office of the congress is Budapest VIII, Esterhazy-utcza 7, but Dr. J. H. Musser, 1929 Chestnut Street, Philadelphia, is chairman of the American committee, from whom further details may be obtained. Later announcements will be made in these columns as the time of the congress approaches.

FOREIGN.

Rioting Closes Paris Medical School.—The university authorities at Paris have been obliged to close the medical school on account of the rioting on the part of the students. The disturbances are the result of the appointment of two outsiders, A. Nicolas and Prenant, of the Nancy medical school, to be professors of anatomy and histology at the Paris school. The Paris students protested that the chairs should have been filled by promoting from the lower ranks instead of appointing outsiders. The provision is made that the incumbents of the chairs must give up private practice, but this provision was not announced in time to allow local competitors any decision in the matter.

Illness of Professor Liebreich of Berlin.—The professor of pharmacology at Berlin was among the invited speakers at the international congress of science which was one of the features of the St. Louis Exposition two years ago. He discovered the special properties of chloral and the anesthetic action of ethyl chlorid, besides a number of other pharmacologic facts of importance, and founded the *Therapeutische Monatshefte* in 1887 and the *Encylopädie der Therapie* later. He has been unable to lecture for a number of months, and Langgaard has temporarily replaced him, but the authorities are now taking steps to appoint a new incumbent to the chair, as there seems to be no possibility of Liebreich's recovery.

Esperanto Congress.—The third international congress for propagation of Esperanto was held at Cambridge, Eng., last August. A report in the *British Medical Journal* states that two special meetings of medical men were held, with representatives from France, Germany and Poland besides the English present, sixteen in all. They nominated Professor Dor of Lyons to be the president of the newly organized International Esperantist Scientific Association. It was decided to publish an Esperanto medical dictionary and Professor Dor was empowered to treat with some Paris medical journal in regard to publishing a special Esperanto edition. A special meeting of Red Cross societies was also held in connection with the congress, and it was stated that the French Red Cross societies are taking up Esperanto with much enthusiasm, and that the subject is to be agitated in other countries among societies for helping the wounded.

LONDON LETTER.

(*From Our Regular Correspondent.*)

LONDON, Nov. 13, 1907.

The Lust of Speed.

Despite all the precautions taken, the list of serious railway accidents during the past six months has been appalling. In more than one the fault appears to have lain chiefly with the engine driver. He has disregarded signals or traveled too rapidly around curves. The *Lancet* charges it to the lust of speed with which this generation seems to be afflicted. Periodical examinations of engine drivers and other remedial measures have been suggested, but the *Lancet* thinks that a responsible man should not be reduced to a mere machine, and that his work should be frequently changed. The London County Council is again recommending medical examination for drivers of electric tram cars. For such a post a man's physical fitness should be ascertained, and his habits of life and character generally investigated. The custody of a large number of lives is entrusted to these men, and it is absolutely incumbent on the authorities to insist that they should be suitable for their positions in every particular.

Plague in India.

From July 28 to September 7, in all India there were 31,658 cases of plague and 21,990 deaths. Over two-thirds of this number occurred in the Bombay presidency. From the first to the last week of this interval the number of deaths has more than trebled.

Tuberculosis Exhibitions in Ireland.

Following the successful tuberculosis exhibition in Dublin, a similar exhibition is to be held in Belfast. Sir R. Douglas Powell, president of the Royal College of Physicians of London, will give the first lecture. Several other towns in Ireland have asked for the exhibition.

Scarlet Fever in London.

An epidemic of scarlet fever is present in London. There are over 2,000 more patients under treatment with this disease than ever before.

Organization of the Medical Service of the Proposed Territorial Force.

In connection with the so-called hospital scandals of the South African war, the necessity for reorganizing the army, not only in the medical service, but generally, was frequently pointed out in THE JOURNAL. The defects originate in the effete caste system, which still flourishes in society, and the few professions which the aristocracy of their plutocratic

mimics think they do not sully themselves in pursuing. Nowhere is the caste system so rife and nowhere has it wrought such evil effects as in the army. But the fundamentally conservative instincts of the English people, their respect for the past, prevents them from making any changes until absolutely driven to do so. Under the late conservative government, various futile attempts were made at army reform. Their failure was a foregone conclusion, because the *raison d'être* of conservatism is to protect the effete system. After the breakdown of the arrangements for the medical service in the South African war, Lord Lansdowne, the secretary for war, announced his intention of reforming the medical service, root and branch. But he never said a word about reforming the combatant service which had shown itself so lamentably inefficient, and which dominated the medical service and was responsible for its shortcomings. Now under a more democratic government radical reform has become possible. Mr. Haldane, the present secretary for war, is transforming the whole force. Not the least important of his innovations is the greater autonomy he has given to the medical service. The old amateurish volunteers and militia are to be transformed into a competent territorial force, which will be little inferior to the regular army and will be trained in a similar manner. In making arrangements for the medical service of this force, Mr. Haldane has made one of his most striking innovations. He has deputed Sir Alfred Keogh, the director general, to address meetings of physicians throughout the country to explain his proposals for the medical arrangements of the territorial force. Addressing a meeting at Manchester, Sir Alfred Keogh said that the present medical arrangements of the volunteers are inadequate for the duties required in time of war. Many people said that when war breaks out the army will get "lots of doctors." He pointed out that "lots of doctors" would not do, because the army medical officer has to be an administrator as well as a doctor. Referring to the proposed reorganization of the regular army, he stated that one of the blunders of the South African war was that men were invalided home who never ought to have been sent. In every hospital under the new scheme, each patient would be watched carefully and sent back to his battalion if possible. Another new feature is the provision of a sanitary service for an army in the field. Each division will have its special sanitary department under an officer with a special knowledge of sanitation. A school of sanitation has been established at Aldershot, where men are being carefully taught for every battalion. In time of war the army will be supplied with military and civil sanitarians and an endeavor made to prevent decimation of the battalions by disease. Then, turning to the territorial scheme, he mentioned a most important innovation. At present the volunteers have medical officers but no hospitals; so that if the country were invaded there would be no place to send sick soldiers except civil hospitals, which would probably be already crowded in consequence of the distress which war always brings in its train. He desires to raise staffs for military hospitals in time of peace. He asked the physicians and surgeons in centers like Liverpool and Manchester to join the territorial force, but not to undertake any duties in time of peace, but only in time of war. He proposes to establish in Manchester a large general hospital—a military territorial hospital—which in time of war would work in conjunction with troops in the neighborhood. The physicians and surgeons of the city could do the work of the hospital while still performing their own. The scheme was discussed and a motion adopted pledging the meeting to support it.

The Allocating of Portion of Damages for Accident to a Hospital.

Mr. Justice Darling has created a new precedent by allocating portion of damages for an accident to a hospital in which a patient was treated. A boy was knocked down and seriously injured by an omnibus, and a jury awarded $3,750 damages. The judge, when dealing with the question of the disposal of this sum, said: "When a person receives from a charitable institution such benefits as have been conferred on this boy; when it is obvious that the boy would have died but for the clever diagnosis of the house surgeon, the immediate decision that an operation was necessary, and the calling in of a skilled surgeon; and when the staff of the hospital has exercised great skill, a substantial contribution should be made to the institution. That can be made out of the damages and the rest I can order to be invested. Following this incident a writer has made the suggestion in the *Times* that courts should be given power in cases of the kind to add to the damages such a sum as the jury might assess as a compensation to the hospital.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

The Internal Use of Water as a Therapeutic Agent.

Two articles in the *Texas State Journal of Medicine*, July, 1907, one entitled "Thirst Cure," by Dr. J. W. Scott of Houston, Texas, and the other entitled "Hydrotherapy," by Dr. J. M. Frazier of Belton, Texas, present many thoughts for careful consideration. There is no doubt that the internal administration of water is not well considered by practitioners, and the advice to drink more water is often carelessly and thoughtlessly given.

The conditions in which the intake of water should be restricted are:

In poor gastric digestion or in insufficiency of the gastric juice.

In dilatation or in motor insufficiency of the stomach.

In acute watery discharges.

In anemia.

In arteriosclerosis.

In aneurism.

When there has recently been internal hemorrhage.

In cardiac insufficiency, i. e., weakness of the heart muscle, whether there is valvular disease or not.

When there is edema from any cause.

When there is fluid extravasation, as in pleurisy, pericarditis with effusion, or in ascites.

When there is either acute or chronic inflammation of the kidneys.

The conditions in which the water intake should be increased are:

In hyperacidity of the stomach.

In constipation.

In congestions of, and sluggishness of, the liver, when this is not due to organic disease.

When there is jaundice.

When there is a tendency to the deposition of gallstones or to the formation of renal calculi.

When there is acute or subacute gastric catarrh.

When there is a diminished amount of urine of high specific gravity, without kidney inflammation.

When there is irritability of the bladder or urethra from concentrated or very acid urine, or when there is acute inflammation of these parts.

When there is loss of weight without anemia.

When there is dryness of the skin without kidney insufficiency or anemia being the cause.

But little water is absorbed from the stomach, it being generally quickly passed into the duodenum and absorbed from the intestines. It passes out of the body by the urine, perspiration and breath, with a varying amount by the feces (in ordinary conditions not more than 4 per cent. in this manner). "About 46 per cent. passes by the urine, 30 per cent. by the perspiration, and 20 per cent. by exhalation from the lungs. Some water is doubtless produced in the system, as when the intake of water is restricted the output is from 10 to 25 per cent. in excess of that taken in."—Frazier.) This fact is

demonstrable in diabetes mellitus and in diabetes insipidus where much more water is often passed than has been ingested.

When it is realized that 70 per cent. by weight of the human body consists of water, and that it enters in varying proportions into every tissue of the body, we recognize its importance to the system, and also the fact that an increased or diminished amount from normal or from what is right for the individual can not be carelessly ordered. This physiology relates to pure water, i. e., H_2O, and when we consider that certain drinking waters contain considerable proportion of salts of various kinds and in varying amounts, we should not carelessly order this or that mineral water, or even large amounts of ordinary city water, unless such waters are positively indicated. When certain salts are excreted with difficulty and pile up in the system, or, on the other hand, certain salts are not received in sufficient amount to keep up the nutrition or to satisfy the cellular desire for any one element, we should in each case modify the amount or character of the water ordered. Also, when we wish the water to act as a solvent it should be remembered that water is only the most perfect solvent when it is pure; in other words, as distilled water.

Some of the above-named conditions which should not receive an increased amount of water, or in which the water intake should be diminished, are too self-evident to require discussion. The same is true of many of the conditions above named in which the intake of water should be increased. On the other hand, there are conditions in which the amount of water should be ordered decreased or increased that require discussion. It is certainly wrong to increase the blood pressure with large bulks of water in arteriosclerosis and in conditions of high blood tension or in plethora, or when there is a condition of full-headedness as shown by congestive headaches, dizziness, flushing, and many other signs that the blood tension in the head is plus.

It is wrong to give large amounts of water, and certainly it is a serious mistake to give saline transfusions or saline hypodermoclysis in conditions of shock where there is internal hemorrhage, when there is heart failure in pneumonia, typhoid fever, or in any other acute condition, or when there is any serious cardiac or renal failure. This should not be understood to declare that in uremia or other acute poisoning a certain amount of blood could not be withdrawn and physiologic saline solution injected.

On the other hand, an increased amount of water is of advantage in acute fevers, like typhoid, when there is no cardiac or renal insufficiency. The same is true in all gouty conditions with the same restrictions. Where there is profuse chronic diarrhea or when in diabetes with an enomous output of urine it is wrong to restrict the water, as it causes hardship and tends to cause more drying of the skin, and will not help the disease.

It is not sufficient alone to discuss the intake of water into the system, but it is also necessary to discuss the effect of different diets on the salts and the nucleins of the system, as many a patient who apparently needs more water or less water can be made better by a modification of the diet.

Pruritus Ani.

Dr. Herman A. Brav, Philadelphia, in the *New York Med. Jour.*, Aug. 2, 1907, discusses the treatment of this condition.

He believes that while this itching is often only a symptom of some other disease, such as hemorrhoids or eczema, that in some instances pruritus ani is a distinct entity due to a pathologic change in the skin in that region. In its incipiency the skin may be red from scratching, and there may be marked excoriations. "Later, he says, if the disease progresses, the skin becomes thickened and presents a parchment-like appearance, accompanied either by a moist exudate, or the skin may be dry and covered with scratch marks. If the disease is of long standing and severe, the radiating folds of skin become indurated, edematous, and sometimes ulcerated or fissured, as the result of continuous scratching, and the whole area assumes a dull whitish color from the total loss of pigment occasioned by the gradual exfoliation of the epithelium."

Distinct causes of this condition he enumerates as:

1. Constipation and fecal impaction.
2. Local disease of the rectum or anus.
3. Want of cleanliness in the anal region.
4. Pediculi and seat worms or vegetable parasites.
5. Constitutional or systemic diseases.
6. Bad diet and irregular habits.

Some of these causes have only to be named to indicate the line of treatment. Under the head of constitutional or systemic disease may be mentioned diabetes mellitus, chronic nephritis, obstructive jaundice, and certain uric-acid conditions.

Skin diseases of the anal region are frequently the cause of pruritus, but as a rule the skin disease is secondary and the result of scratching. "Skin diseases causing this trouble are herpes, eczema, scabies and ringworm. Gonorrheal and leucorrheal discharges which find their way to the anal region will sometimes set up a pruritus. In rare cases the disease is due to a neurosis of the rectum."

When no systemic reason can be discovered for the pruritus the diet should be carefully investigated, the meat reduced, highly seasoned foods and the various condiments interdicted, and alcohol, tobacco, tea and coffee either abstained from or distinctly reduced in amount.

While treating the underlying cause, some local relief of the itching must be instituted. Brav recommends the following soothing application:

℞. gm.

Chloralis hydrati
Camphoræ, āā ..... 15 | āā ʒss

M. et adde | or

Acidi borici
Unguenti, āā ..... 15 | āā ʒss

M. et sig.: Apply with a brush three times daily, after cleansing the parts with hot water.

It is sometimes advisable to add to the above ointment from one to one and one-half grams (or from 15 to 20 grains) of phenol, and in other instances from one to one and one-half grams (or from 15 to 20 grains) of menthol. This applied at bedtime will often insure a good night's rest.

When there are fissures he recommends a 5 per cent. solution of nitrate of silver, or a 50 per cent. solution of ichthyol, or balsam of Peru in full strength, as:

℞. gm. or c.c.

Argenti nitratis ..... 2|50 or gr xl
Aquæ ..... 50 | fl ʒii

M. et sig.: For external use by the physician.

[This should be kept in a colored bottle.]

Or:

℞. c.c.

Ichthyolis
Glycerini, āā ..... 25 | or āā fl ʒi

M. et sig.: Apply externally, once or twice a day.

Or:

℞. c.c.

Ichthyolis
Olei olivæ, āā..... 25 | or āā fl ʒi

M. et sig.: Apply externally, once or twice a day.

Or:

℞. c.c.

Ichthyolis
Aquæ, āā ..... 25 | or āā fl ʒi

M. et sig.: Apply externally, once or twice a day.

Or:

℞. gm.

Balsami peruviani ..... 25 | or āā fl ʒi

Sig.: Apply externally, once or twice a day.

When itching is due to syphilis, Brav recommends the ammoniated mercurial ointment, as:

R.	gm.	
Unguenti hydrargyri ammoniati.....	15	ʒss
Petrolati	10	ʒiiss

M. et sig.: Apply externally as directed.

In inveterate cases in which ordinary treatments are of no avail, Brav has used successfully pure carbolic acid, saturated solution of silver nitrate, or the Paquelin cautery. These remedial agents, he states, destroy the epidermis of the affected skin, resulting in cessation of the itching.

He also states that sometimes divulsion of the lower sphincter muscle has been of benefit; as also the introduction of some plug into the anus, at night, has pressed sufficiently on the nerves or venous plexuses to stop the itching.

[We have found *x*-ray applications of marked benefit in inveterate pruritus ani, and have seen instances in which the skin was diseased and the cause due to irritating secretions remain permanently cured.]

Correspondence

Academy of Medicine of Toledo and Lucas County.

TOLEDO, OHIO, Nov 6, 1907.

To the Editor:—In the October number of the *Toledo Medical and Surgical Reporter* there appeared an editorial, "The Future of the Lucas County Medical Association." Knowing that the paper had but little influence or circulation, and knowing that members of the academy were aware how inaccurate these statements were, I felt it unnecessary to reply, but since in THE JOURNAL, October 28, under "Medical Economics," this editorial was abstracted, I wish, as president of the Academy of Medicine, to put you in possession of the facts. The first misstatement made by the editor of the *Toledo Medical and Surgical Reporter* is that relating to the name of the county society. No body of medical men has ever been called the "Lucas County Medical Association." There was a Toledo Medical Association, organized in 1851, and a Lucas County Medical Society, organized in 1884. In 1903 the two were fused under the new organization of the American Medical Association, and assumed the name of the Academy of Medicine of Toledo and Lucas County. The next misstatement made by the editor of the *Toledo Medical and Surgical Reporter* is "the members scatter to reassemble in a fortnight and go through the same performance." The fact is, that since the beginning of 1907, the academy has been holding weekly meetings. Another misstatement in the editorial in the *Toledo Medical and Surgical Reporter* is: "Occasionally we interest ourselves in the hygienic problems of the city, sometimes when the quacks grow unusually high-handed, an effort is made to bring a few to justice." The facts again differ from this statement. We devote one meeting a month to just such problems and the Committee on Public Health and Legislation has investigated seventy-eight cases of illegal practitioners of medicine with fifteen prosecutions and 14 convictions. This record has never been equaled elsewhere in Ohio, and only a few times in the United States. We have appeared before the council demanding the building of a filtration plant which is now approaching completion. We have instituted a milk commission, which is supplying a "certified milk" of exceptional quality. We have organized a Physicians' Defense League for the protection of physicians involved in unjust malpractice suits. A most satisfactory system of postgraduate work has been instituted, with a prearranged weekly schedule. These courses are largely attended by our members and by physicians from the surrounding counties. Last month, under the auspices of the academy, clinics were held in various hospitals, at which there were present more than two hundred and fifty physicians from neighboring districts.

The membership of our society has increased over 25 per cent. since January, 1907. These results are what have been attained by what the editor of the *Reporter* is pleased to call "spasmodic efforts." We wish that the editor might be an occasional visitor at our academy meetings in order to appreciate the true situation. As a matter of fact he has not attended a single meeting during the past two years; neither has he been in Toledo during this period, having been a resident of Los Angeles, Cal.

If the editor of the *Reporter* had dated the article with his last visit to our medical society and had stated that he had not been in Toledo since, many would have understood his allusions, but to publish such an article as a current criticism of our academy is an injustice we resent. We, therefore, ask you to publish the foregoing, in justice to our members.

Yours most cordially,

W. H. SNYDER,
President of the Academy.

[We take pleasure in publishing the above, although the misstatements complained of appeared in the *Toledo Medical and Surgical Reporter*, and were not in the abstract published by us. The editorial was abstracted not because it was accepted as descriptive of the Academy of Medicine of Toledo and Lucas County, but simply because some of the statements made by the editor served as a peg on which to hang some comments.—ED.]

Not Endorsing Kutnow's Powder.

RICHMOND, VA., Nov. 9, 1907.

To the Editor:—Several times during the past year friends of mine traveling in England have called my attention to certain advertisements appearing in London papers, in which Kutnow's powder is advertised in conjunction with a letter purporting to have been given by me endorsing the use of this preparation. Attention has also been called to this advertisement in a circular published by THE JOURNAL in the crusade against "patent medicines." I desire to state that the use of my name in this connection is unauthorized, and without my knowledge or consent.

Kutnow's powder has been extensively advertised to American physicians, and has been represented to them as a preparation made solely for their use. I do not *remember* having ever written a letter to Kutnow Brothers extolling the virtues of their powder; if such a letter were written, in an unguarded moment, it was never intended for any such use, and was considered as a confidential communication.

This incident serves to show how easily the unsuspecting physician may be victimized by the "patent medicine" man, who uses him as the instrument for introducing his medicine as a "proprietary" preparation, and then advertises it to the public as a "patent medicine."

I trust that good may come out of evil, and that others, as well as myself, shall be warned by this experience.

WILLIAM RUSSELL JONES.

Maryland State Society to Erect Library Building.

BALTIMORE, Nov. 19, 1907.

To the Editor:—In the last two issues of THE JOURNAL, under Medical News from Maryland, have appeared notices concerning the new medical library building which the Medical and Chirurgical Faculty of Maryland contemplates erecting within the next year, and for which it is conducting an active campaign to raise $100,000. The impression has been given that this is to be an Osler memorial building, which is only partially true. The committee in charge of this work deems it advisable to present through your columns the real purpose of this new building.

During the winter of 1905, when friends of Dr. Osler learned that he was going to leave this country, they conceived the idea of erecting a building to be known as the "Osler Memorial Building." Funds were collected for this purpose amounting to about $20,000 and then the matter rested for nearly a year. In the spring of 1907 the movement was again revived, and this time the plans were changed so that the building which is now contemplated is to be erected by the members of the society, and will be known as the New Medical Library Building of the Medical and Chirurgical Faculty of Maryland. The money contributed by the friends of Dr. Osler will be used in its erection, and in all probability a special hall or room will

be named after Dr. Osler, this to be a testimonial to him among his friends.

Committees have been formed from the members of the society in Baltimore city and in different counties of the state, and liberal contributions are being made by the thousand or more members throughout the state. At the present time we have in hand, either in cash or pledges, about $42,000. Our aim is to raise $50,000 by April 30, the other $50,000 we believe will be contributed by certain wealthy men who have promised to aid this movement. The campaign is being carried on not only among the medical profession, but appeals are also being made to the laity, to the prominent business houses, and to the large drug houses in the city. The Maryland Pharmaceutical Association will probably raise a fund amounting to nearly $5,000, and will have a room in the building for the use of its members.

I trust that you will find a space for this letter in your columns, so that the impression which has been given that this is to be strictly a memorial to Dr. Osler may be corrected. It does not lessen in any way the esteem which every doctor has for him, but it is only fair to the profession in general to state that this building is being erected through their efforts, and will be a testimonial to the energy and liberality of the doctors of Maryland.

ARTHUR P. HERRING,
Chairman Soliciting Committee.

Intracranial Tumor Due to Traumatism.

FLORENCE, ITALY, Nov. 1, 1907.

To the Editor:—I was much interested in the case of cerebral tumor resulting from trauma, reported in THE JOURNAL, Oct. 19, 1907, page 1361, by Dr. Leszynsky and commented on editorially in the same issue. The report reminded me of the first case of cerebral surgery in which I ever operated. The cause of the tumor—in my case, a fibroma—was the same, viz., trauma from a small splinter of bone from the inner table of the skull—a very rare fracture. In Dr. Leszynsky's case only two years elapsed between the accident and death; in my own over twenty years elapsed between the accident and the operation. The bone splinter was found at operation, adhering to the dura from which the fibroma arose. The operation was done in the autumn of 1887 and was reported in the *American Journal of the Medical Sciences* in, I think, 1888 or 1889. Those interested in such cases will be glad to learn that up to the end of 1906, the date of my last information, the patient was still living—over nineteen years after the operation—and in as good health as could be expected after such a history.

W. W. KEEN.

Book Notices

PRINCIPLES AND PRACTICE OF MODERN SURGERY. By Roswell Park, M.D., Professor of Surgery in the University of Buffalo, Buffalo, N. Y. In one imperial octavo volume, 1072 pages, 722 engravings and 60 full page plates in colors and monochrome. Cloth, $7.00 net. Lea Brothers & Co., Philadelphia, 1907.

This book from the hand of a master of his art is one of the most welcome additions to our medical shelves in recent years. A work written entirely by one author who is thoroughly conversant with the many details of his specialty is far more satisfactory than one written by a number of surgeons. Dr. Park's varied and long experience renders him peculiarly fitted to write a book on the entire subject of surgery. The work is well balanced and gives the reader not only the benefit of the author's extensive knowledge of surgical pathology, but also describes the details of diagnosis and treatment in a manner born of ripe experience. The only regret is that comparatively few original illustrations have been employed. The book should serve the student and practitioner as a most valuable and authoritative guide. The chapters on abdominal surgery are especially satisfactory and thorough. The book is a worthy successor of the "Surgery by American Authors," edited by Professor Park, which ran through three editions. The popularity of this system will be fully shared by the present single volume.

PHARMACOLOGY AND THERAPEUTICS. By Reynold Webb Wilcox, M.D., LL.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital, etc. Seventh Edition, Revised, with Index of Symptoms and Diseases. Cloth. Pp. 885. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co., 1907.

This companion volume to "Materia Medica and Pharmacy," the latest edition of which recently appeared, has been revised with a view to condensation so far as compatible with clearness. The two works combined offer a complete presentation of the subject of materia medica and therapeutics. In the present volume drugs are taken up according to a pharmacologic classification and their action first given, after which follows the therapeutic uses deduced therefrom. It is reassuring to see in this text-book a correct presentation of the facts concerning lithium as a uric-acid solvent, and we hope that this may go far toward removing some of the blind use of this and other uric-acid solvents which has been so common in the past. The true status of inorganic and organic iron is also recognized. The book seems to be brought well up to date, and affords a useful guide to the student and practitioner in the treatment of disease.

CLINICAL THERAPEUTICS. A Handbook on the Special Treatment of Internal Disease. By Alfred C. Croftan, Author of "Clinical Urinology." Second Edition, Revised. Cloth. Pp. 626. Price, $5.00. Chicago: Cleveland Press, 1907.

The first edition of this book was issued only a few months ago and is quickly followed by this second edition. The author has written a book on therapeutics and no attempt is made to cover the field of materia medica or pharmacology. The book aims to give practical directions for the treatment of the sick. If we express a criticism it is that the various remedies are not always valued or their worth expressed, but are simply enumerated and good methods of administration described. For each disease discussed the various medicines and medical procedures which are still recommended and used by clinicians are described. Non-medicinal therapeutics is not neglected; on the contrary, it is discussed fully. The best chapters are those devoted to diseases of metabolism and of the kidneys. Only the commonest infections are considered, and diseases of the nervous system are not included.

HEART DISEASE AND BLOOD PRESSURE. A Practical Consideration of Theory and Treatment. By Louis Faugeres Bishop, A.M., M.D., Clinical Professor of Heart and Circulatory Diseases, Fordham University School of Medicine, New York City, etc. Second Edition. Cloth. Pp. 120. Price, $1.00. New York: E. B. Treat & Co., 1907.

This is the second edition of this little volume and while there is much of interest in it, it is surprising that a second edition should be needed. The book does not discuss heart disease, nor methods of measuring blood pressure, nor is its scope that of blood pressure in heart disease; but it discusses some of the conditions of high and low blood pressure, and, in most general terms, methods of treatment. The author frequently expresses himself as though high or low arterial tension were a disease instead of a symptom of many different ones. In discussing treatment, however, he does consider the diseases and the treatment of them which may be necessary to remove a disturbance of tension. The book contains nothing which is strikingly original; on the other hand, is not a satisfactory compilation of what is known of the subjects embraced in its title.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

KISSINGEN SALTS IN OBESITY.

FREDERICKSBURG, OHIO, Nov. 15, 1907.

To the Editor:—Please tell me whether or not there is anything in "Kissingen salts" that would be depressing to the heart or otherwise injurious in ordinary doses? Are such salts efficient in the treatment of obesity? Where can I obtain up-to-date information on dieting for obesity. W. H. MERRIAM.

ANSWER.—Artificial Kissingen salt and effervescent artificial Kissingen salt are now official in the National Formularly under the titles Sal Kissingense-Factitium and Pulvis Salis Kissingensis Fac-

titii Effervescens. The composition of the artificial Kissingen salt is as follows: Potassium chlorid, 17 parts; sodium chlorid 357 parts, anhydrous magnesium sulphate, 59 parts; sodium bicarbonate, 107 parts. 1.5 gm. (24 grains) dissolved in 200 c.c. (6 fluidounces) of water represents an equal volume of Kissingen water (Rakoczi spring) in its essential constituents. As can be seen from the formula there is nothing in the salt that would be regarded as depressing to the heart or otherwise injurious when used in ordinary doses. The effervescent powder merely contains sodium bicarbonate and tartaric acid (or citric acid in the granular form) in addition to the ingredients above mentioned. It would, therefore be somewhat more active on the kidneys from the sodium tartrate or citrate formed after solution. As these preparations are official we have a right to assume that the brands put up by various manufacturers will have the same composition unless they are specially labelled to indicate the divergence from the official formula. We do not desire to enter into the question of the efficacy of the various methods of reducing obesity, but it is evident that any virtue that these salts possess must reside in the well-known properties of their constituents. Laxatives may carry away a portion of the nutrition ingested and thus reduce the weight, but it would appear more rational to reduce the intake than to increase the outgo. Whether any other action on internal metabolism can be attributed to these salts by which they may be useful in obesity remains to be determined. Kissingen is one of the waters recommended for the treatment of obesity, but the reliance should not be placed on a mineral water alone. Physicians should not be deceived by a rapid loss of weight after purgation which may be due to mere abstraction of water from the tissues and be no indication of a real lessening of the obesity. Directions for the dietetic treatment of obesity may be found in the recent treatises on medicine. We may also refer our readers to the comprehensive and thoroughly up-to date article by A. C. Croftan in THE JOURNAL, Sept. 15, 1906.

VALUE OF BUCKWHEAT FOR DIABETICS.

BAD AXE, MICH., Nov. 22, 1907.

To the Editor:—Please tell me the percentages of carbohydrates and nitrogenous constituents in buckwheat flour. How does it compare with potatoes, etc., as a food for diabetics?

D. CONBOY, M.D.

ANSWER.—The following is the composition of buckwheat flour given by Wiley ("Foods and Their Adulteration," 1907, p. 219):

	Finely bolted.	Less refined flour.
Moisture	11.89 per cent.	11.19 per cent.
Protein	8.75 per cent.	9.81 per cent.
Ether extract	1.58 per cent.	2.33 per cent.
Ash	1.85 per cent.	1.53 per cent.
Fiber	.52 per cent.	.73 per cent.
Starch and sugar	75.41 per cent.	74.41 per cent.
Calories, per gram	3.854	3,954

It will be seen from the above that buckwheat flour is comparable with ordinary wheat flour so far as its percentage of starch is concerned, although the protein is slightly lower. Unless for some reason its starch is not metabolized in the same way as is wheat starch its value for the nutrition of diabetics would not differ from that of ordinary wheat flour; it would also be inferior to potatoes, which are low in starch, although, from their bulky consistence, they produce a feeling of satiety more readily than does bread. This superiority of potatoes, however, should not lead one to consume a large amount therof, as thus enough starch can be ingested to equal that from a quantity of wheat bread which would be prohibited.

BILATERAL PTOSIS.

PITTSBURG, PA., Nov. 7, 1907.

To the Editor:—Can you give me references on the subject of bilateral ptosis? The text-books, both ophthalmologic and neurologic are conspicuously brief in their discussion of this subject. The case under observation is one presenting the cardinal symptoms of bilateral ptosis of sudden onset, contraction of both visual fields to macular vision only, without local fundal changes, increased knee jerks. No other signs of disease exist, except a functional murmur in the pulmonic area. Nutrition and general health are excellent. The diagnosis of hysteria has been entertained. Any references to literature bearing on the case will be greatly appreciated. FRANK D. STOLZENBACH.

ANSWER.—The fact that the ptosis is bilateral does not, *per se*, throw much light on the genesis of that symptom, since falling of the upper lid may be one of the signs of several different diseases. A good account of hysteric ptosis (as the above case seems to be) may be found in Posey and Spiller's "The Eye and the Nervous System," where, also, the differential diagnosis between the purely functional disorder and the organic ptosis of bulbar palsy, multiple sclerosis, ataxia, etc., is duly set forth. It may be added, in passing, that the majority of cases of double ptosis belong to the congenital class, and that in hysteric ptosis other stigmata of hysteria are generally demonstrable.

CHROMICIZING CATGUT.

CLEVELAND, OHIO, Nov. 11, 1907.

To the Editor:—Please publish formulas of chromic acid solution suitable for chromicizing catgut. After chromicizing, I intend sterilizing it by the iodin method of Claudius. A SEARCHER.

ANSWER.—Formulas for chromicizing and sterilizing catgut have been published at various times in THE JOURNAL. Some of these can be found on the following pages: Feb. 25, 1905, 657; April 8, 1905, 1149; Dec. 16, 1905, 1906; Aug. 25, 1906, 642; Sept. 1, 1906, 703 and 727; Jan. 5, 1907, 85; March 2, 1907, 819. A manufacturer of catgut states that it will be impossible to chromicize gut after the iodin method of Claudius has been employed to sterilize it. The gut will become brittle and useless.

GERMAN MERCURIAL OINTMENTS.

PENN YAN, N. Y., Nov. 5, 1907.

To the Editor:—As I have not access to the German Pharmacopeia, I take the liberty of asking you if you can furnish formulas for the following, recommended by Dr. Jacobi as official remedies: Unguentum Cinereum, Mercury Vasogen, Mercury Soap, Resorbin-Mercurial Ointment. E. M. SCHERER.

ANSWER.—Unguentum Hydrargyri Cinereum, official in the German Pharmacopeia, consists of mercury 100 parts, anhydrous wool fat 15 parts, and olive oil 3 parts, carefully mixed, adding the mercury in small portions until no globules are visible to the naked eye, and then adding a previously melted mixture of 112 parts of lard and 70 parts of mutton tallow. The preparation is essentially equivalent to the Unguentum Hydrargyri Dilutum of the U. S. P. (See Physicians Manual of the U. S. Pharmacopeia and National Formulary, page 167.)

Vasogen is not official in the German pharmacopeia. It is a proprietary preparation claimed to consist of vaselin or petrolatum to which oxygen has been added. A mixture of liquid petrolatum and a soap, obtained by saponifying oleic acid with ammonia, possesses all the advantages claimed for vasogen. Such a preparation is now included in the National Formulary as Petrolatum Saponatum Liquidum (Manual, page 111).

Under the designation of Sapo Mercurialis Schuster recommends the following mixture: Purified mercury, 33.33 per cent., white olive oil soap, powdered, 12.66 per cent., suet, 18 per cent., lard, 36 per cent. The proportion of the last two ingredients may be varied according to the season of year (G. Arends, *Neue Arzneimittel und Specialitäten*).

Concerning Resorbin the following appeared in THE JOURNAL, July 13, 1907, p. 158: "Resorbin is a German proprietary article. It can be bought, we believe, from Wholesale druggists generally. A German publication (Arend's *Neue Arzneimittel*, 2d edit., p. 450), has proposed the following formula: Almond oil, 25 parts; castile soap, 10 parts; white wax, 15 parts; hydrous lanolin, 30 parts, are melted together, and, while still warm, a solution of gelatin 5 parts, in water, 15 parts, is added and the mixture stirred until cold. Parts means parts by weight." The same authority states that both red and gray resorbin-mercury are on the market. The gray preparation is said to be an ointment containing either 33.3 or 50 per cent. mercury. The red preparation is stated to have the same composition but is colored red with vermilion so as to hide the character of the ointment from patients who object to mercury treatment.

RIGHT OF PRIVILEGED COMMUNICATION MAY BE ENFORCED AGAINST FORMER ATTENDANT.

———, Oct. 28, 1907.

To the Editor:—Please define the proper course under the following question of ethical conduct: A patient in the country is referred by her family physician to a certain physician and surgeon living in a city. After examination by the physician to whom the case is referred the patient requests and insists that in writing to the physician in the country the physician in the city shall not give diagnostic findings or course to be pursued in treating the case. As the case had been long troubling the family physician in the country the physician recommended feels that the family physician is entitled to know the result of the examination and what course of treatment is advised. X. Y. Z.

ANSWER.—Although, on first reading of the above, there seems some ambiguity as to who is to treat the patient subsequently, one must deduce that, whatever may have been the intention of the patient when her country attendant sent her to the city, she now desires the city practitioner to assume charge of the case. Any interpretation that the country physician is to carry on the treatment that is suggested by the city consultant is rendered impossible by the patient's request for secrecy. In other words, a deadlock would be occasioned. This being understood as a premise, it follows that the consultant comes into direct relation with the patient and is precluded by the ethics of professional secrecy, on the patient's demand, from making any communication respecting the results of his professional investigations, both in general and to any person in particular. Under these circumstances, the patient's former physician must accept the situation as gracefully as he can and console himself with the not

infrequently necessary reflection that his patient has acted with very bad taste, not to say with injustice and ingratitude to him. The only justification for the patient's action in this case would be that she had entirely lost confidence in her original physician, from whose care she had decided to withdraw herself, and in the exercise of her free and undoubted right, to place herself under the care of some one in whom she had greater confidence. All that is required of her in this case is that she should take the steps demanded by justice and common courtesy and inform her attending physician of her change of attitude in regard to him before entering into direct professional relations with any other physician. For it must not be forgotten that the patient has an inalienable right to change her physician as often as she chooses and for any reason that seems good to her. All that one can demand of her is that in so doing she shall exercise common courtesy and justice. The ethical principles governing the relations of physicians one to another under such circumstances are not based on any right to interfere with the patient's freedom of choice, but to ensure that such free choice has its origin in the patient herself, and is neither instigated nor helped along by a professional colleague.

MILK DIET IN TYPHOID FEVER.

Dr. F. J. W. Maguire, Detroit, writes: In THE JOURNAL, October 5, under Therapeutics, I notice your advocacy of milk as the diet for typhoid fever patients. From my experiments with diet in typhoid fever, covering a period of several years, I have come to the conclusion that milk as a diet in typhoid fever, far from being the ideal diet, is, on the contrary, the principal cause of the great mortality in that disease for the following reasons: (1) Milk makes an excellent culture medium for the typhoid bacilli. (2) Milk, through curding, is very slowly absorbed, continually keeping the alimentary canal filled with material prone to rapid decomposition, resulting in the production of a large amount of gas which causes a hyperdistension of the intestinal canal. The already ulcerated Peyer's patches are thereby placed under great strain. This is in my mind one of the most productive causes of perforation. Then, too, there are the toxins, resulting from this process of milk decomposition to contend with. (3) Milk is so frequently contaminated with typhoid bacilli that it is only adding fuel to the already infected areas.

Your article contradicts itself. At the beginning you recommend milk as a proper diet in typhoid fever. In the last paragraph of your article you state (italics mine):

Besides the temperature caused by the primary disease or infection most diseases have that due to the secondary infection or the local inflammation and disturbance caused by the disease. This is especially true of typhoid fever, and if the bowels are allowed to become distended and food that is not properly digested is pushed, *fermentation, decomposition* and *putrefaction* occur. The region of the ulcerations makes good culture grounds for bacteria, and all this causes secondary infection and the temperature will be higher. In other words, the less intestinal fermentation and the *cleaner* and *more* at *rest* the *bowels are*, the less high will the temperature rise. The more the local distension and inflammation, the more readily the colon bacillus as well as the typhoid bacillus migrates to other parts of the body and causes secondary infections. Hence as near as we can approach bowel cleanliness without exhausting the patient the less toxemia and complications we have to combat.

From my experience, one will never secure these much desired results if one continues to give milk as a diet in typhoid fever, which my work on the subject, soon to be issued, will prove.

ANSWER.—In typhoid fever any diet that causes fermentation should be stopped. On the other hand, many patients digest a small amount of milk perfectly, and to some patients it would be wrong to give a sufficient amount of other proteid foods to keep up the nutrition. Nitrogenous toxemia and kidney disturbances easily occur in this fever. A diet that presents the different nutriments recommended in the article on typhoid fever without giving an undue amount of any one nutriment has proved clinically perfectly satisfactory. With the diet recommended and the care of the bowels recommended, very competent observers see no tympanites whatever in their cases of typhoid fever.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, week ending Nov. 23, 1907:

Torney, G. H., deputy surgeon general, ordered to proceed from the Army General Hospital, Presidio of San Francisco, with insane patient to the Government Hospital for the Insane, Washington, D. C.

Ives, F. J., surgeon, will, in addition to his present duties, assume temporary charge of chief surgeon's office.

Zinke, asst.-surgeon, left Fort Leavenworth, Kans., en route for duty with troops at Cheyenne Indian Reservation.

Raymond, T. U., surgeon, relieved from duty in the Philippines Division about Feb. 15, 1908, and will proceed to San Francisco, and on arrival report to the Adjutant General of the Army for further orders.

Rich, E. W., asst.-surgeon, will accompany Troops D and F, Sixth Cavalry, from Fort Meade, S. D., to the Philippine Islands, for duty.

Torney, G. H., deputy surgeon general, granted thirty days' leave of absence.

Hess, L. T., asst.-surgeon, order of assignment to duty in the Philippine Islands revoked, and instead ordered to Cuba for duty.

Talbott, E. M., asst.-surgeon, granted two months' leave of absence.

Baily, H. H., asst.-surgeon, ordered to proceed from Fort Myer, Va., to Fort Slocum, N. Y., for temporary duty.

Hess, J. H., examining and supervising dental surgeon, relieved from treatment at Army General Hospital, Presidio of San Francisco, and from further duty in the Philippines Division, and ordered to Fort Leavenworth, Kan., for duty.

Johnstone, E. K., contract surgeon, left Camp Yosemite, Cal., marching with troops to Presidio of San Francisco.

Daywalt, G. W., contract surgeon, returned to duty at Fort De Soto, Fla., from leave of absence.

Miller, A. L., contract surgeon, relieved from duty at the U. S. Military Prison, Fort Leavenworth, Kans., and directed to proceed to Fort Meade, S. D., for duty.

Brewer, I. W., contract surgeon, relieved from duty at Fort Huachuca, Ariz., at the expiration of his present leave of absence, and directed to proceed to Fort Warren, Mass., for duty.

Baker, C. L., contract surgeon, relieved from duty at Fort Warren, Mass., directed to proceed to Fort Huachuca, Ariz., for duty.

Tyler, G. T., contract surgeon, relieved from duty at West Point, N. Y., and directed to proceed to Fort Porter, N. Y., for duty.

Trotter-Tyler, George, contract surgeon, ordered from Fort Adams, R. I., to Fort Hancock, N. J., for temporary duty.

Halliday, C. H., contract surgeon, relieved from further duty in the Philippines Division, and ordered to proceed at the expiration of his present leave of absence to Fort Sam Houston, Texas, for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Nov. 23, 1907:

Michels, R. H., P. A. surgeon, orders to the *Missouri* revoked; ordered to continue duty at the Naval Recruiting Station, Kansas City, Mo.

Smith, H. L., asst.-surgeon, detached from the Naval Recruiting station, Omaha, and ordered to the *Missouri*.

Wickes, G. L., asst.-surgeon, detached from the Naval Recruiting Station, Kansas City, and ordered to the Naval Recruiting Station, Omaha.

Lung, G. A., surgeon, detached from the Naval Recruiting station, Philadelphia, and ordered to the *Hancock*.

Michels, R. H., P. A. surgeon, resignation accepted, to take effect Dec. 31, 1907.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 20, 1907:

Bailhache, P. H., surgeon, granted leave of absence for 7 days from Nov. 20, 1907, under Paragraph 189, Service Regulations.

Carrington, P. M., surgeon, granted leave of absence for 6 days from Nov. 16, 1907, under Paragraph 189, Service Regulations.

Carrington, P. M., surgeon, granted two days' extension leave of absence from Nov. 22, 1907.

McIntosh, W. P., surgeon, granted leave of absence for 10 days from Nov. 27, 1907.

von Ezdorf, R. H., P. A. surgeon, directed to attend the Third International Sanitary Convention, to be held in the City of Mexico, December 2-7, 1907, on completion of which duty to rejoin his station at New Orleans Quarantine.

Anderson, J. F., P. A. surgeon, detailed to represent the Service at the meeting of the American Association for the Advancement of Science, to be held in Chicago, Dec. 29, 1907, on completion of which to rejoin his station at Washington, D. C.

Anderson, J. F., P. A. surgeon, granted leave of absence for 7 days from Nov. 14, 1907, under Paragraph 191, Service Regulations.

Anderson, J. F., P. A. surgeon, granted 6 days' extension leave of absence from Nov. 21, 1907.

Holt, J. H., P. A. surgeon, leave of absence granted for 23 days from Sept. 7, 1907, revoked.

Boggess, J. S., P. A. surgeon, relieved from duty at Quebec, Canada, and directed to proceed to St. John, N. B., for duty.

Spratt, R. D., asst.-surgeon, granted leave of absence for one month from Dec. 12, 1907.

Bryan, W. M., asst.-surgeon, directed to proceed to Savannah Quarantine Station for temporary duty, on completion of which to rejoin his station at New Orleans.

Gill, S. G., acting asst.-surgeon, granted leave of absence for 30 days from Dec. 4, 1907.

Gregory, G. A., acting asst. surgeon, granted leave of absence for 14 days from Nov. 14, 1907.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for 2 days from Nov. 10, 1907, on account of sickness.

LaGrange, J. V., pharmacist, granted leave of absence for 7 days from Nov. 14, 1907, under Paragraph 210, Service Regulations.

Hepler, G. K., pharmacist, relieved from duty at Chicago, Ill., and directed to proceed to Louisville, Kentucky, reporting to the medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

A board of medical officers was called at Boston, Nov. 20, 1907, for the purpose of conducting a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; and Asst.-Surgeon T. W. Salmon, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 22, 1907:

SMALLPOX—UNITED STATES.

California: Bakersfield, July 1-Nov. 15, present; Los Angeles, Oct. 26-Nov. 9, 7 cases; Tehachapi, June 1-Nov. 15, 125 cases.

Illinois: Chicago, Nov. 10-16, 1 case; Springfield, Nov. 1-14, 67 cases.

Indiana: Seven counties, Sept. 1-30, 23 cases; Elkhart, Nov. 3-9, 5 cases.
Iowa: Cartersville, Sept. 21-Oct. 12, 3 cases.
Massachusetts: Fall River, Nov. 10-16, 1 case.
Missouri: St. Louis, Oct. 20-26, 1 case.
New York: Eleven counties, Aug. 1-Nov. 7, 56 cases; Kingston, Oct. 1-31, 1 case.
North Carolina: Nine Counties, Sept. 1-30, 34 cases.
Tennessee: Nashville, Nov. 10-16, 2 cases.
Texas: San Antonio, Nov. 3-9, 1 case.
Washington: Tacoma, Nov. 3-9, 2 cases.
Wisconsin: La Crosse, Nov. 3-9, 2 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Aires, Aug. 1-31, 3 deaths.
Austria: Vienna, Oct. 22-28, 4 cases.
Brazil: Para, Oct. 22-28, 26 cases, 19 deaths.
China: Hongkong, Sept. 22-28, 2 cases, 2 deaths; Shanghai, Sept. 30-Oct. 6, 2 cases, 6 deaths.
Colombia: Cartagena, Oct. 25-Nov. 1, present.
Ecuador: Guayaquil, Oct. 16-20, 2 deaths.
France: Marseilles, Oct. 1-31, 23 deaths; Paris, Oct. 27-Nov. 2, 2 cases.
India: Calcutta, Sept. 22-28, 2 deaths; Rangoon, Sept. 29-Oct. 5, 1 death.
Java: Batavia, Sept. 29-Oct. 5, 18 cases, 5 deaths.
Peru: Lima, Oct. 13-19, present.
Russia: Batoum, Sept. 13-Oct. 13, 3 cases; Riga, Oct. 20-26, 5 cases; Warsaw, Oct. 8-14, 11 deaths.
Spain: Barcelona, Oct. 10-20, 2 deaths; Denia, Oct. 7-26, 2 cases; Valencia, Oct. 14-27, 56 cases, 5 deaths.
Turkey in Europe: Constantinople, Oct. 13-27, 1 death.

CHOLERA.

China: Hongkong, Sept. 8-14, 1 case.
India: Bombay, Oct. 16-22, 8 deaths; Calcutta, Sept. 14-21, 1 case, 31 deaths; Cochin, Sept. 7-Oct. 4, 12 deaths; Rangoon, Sept. 29-Oct. 5, 2 deaths.
Japan: General, Aug. 19-Oct. 5, 2,944 cases, 736 deaths; Kobe, Oct. 1-12, 40 cases, 15 deaths; Yokohama, Oct. 15-21, 10 cases, 9 deaths.
Manchuria: Dalny, Oct. 6-12, 12 cases, 6 deaths.
Philippine Islands: Manila, Sept. 29-Oct. 12, 55 cases, 48 deaths; Bulachan Province, Oct. 6-12, 1 case.
Straits Settlements: Singapore, Oct. 6-12, 4 deaths.
Turkey in Europe: Constantinople, Nov. 9, present.

YELLOW FEVER.

Brazil: Para, Oct. 20-26, 10 cases, 10 deaths.
Cuba: Camaguay Province, Ciego de Avila, Nov. 6-18, 3 cases, 1 death; Habana Province, Guines, Nov. 13-16, 1 case, 1 death; Matanzas Province, Alacranes, Nov. 17, 1 case, 1 death; Cienfuegos, Nov. 10, 1 case, 1 death; Santa Clara Province, Santa Clara, Nov. 19, 2 cases, American soldiers.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 10-16, 12 cases, 6 deaths.
Washington: Seattle, Nov. 16-30, 2 cases, 1 death.

PLAGUE—FOREIGN.

China: Hongkong, Sept. 8-21, 4 cases, 4 deaths.
Egypt: Alexandria, Oct. 15-21, 5 cases, 3 deaths; Port Said, Oct. 11-27, 1 case, 1 death; Minieh Province, Oct. 9-15, 5 cases, 1 death.
India: General, Sept. 15-28, 26,388 cases, 18,553 deaths; Bombay, Oct. 16-22, 16 deaths; Calcutta, Sept. 22-28, 7 deaths; Rangoon, Sept. 28-Oct. 5, 21 deaths.
Turkey in Asia: Mitylene, Oct. 22-28, 1 death.

Medical Economics

County Society to Do County Charity Work.

At the last session of the Michigan State Medical Society the committee on contract practice presented an exhaustive report, in which was included the report of a subcommittee on contract practice for county boards of poor commissioners. The report of this committee—one of the best that has yet appeared—by Dr. A. L. Seeley of Mayville, councilor for the eighth district, was abstracted in THE JOURNAL, Aug. 3, 1907. The Tuscola County Medical Society has adopted Dr. Seeley's suggestions and apparently has solved the vexing problem of contract practice for the care of the indigent poor of the county. After becoming incorporated as the county society, the following communication was sent to the board of supervisors:

To the Honorable Board of Supervisors of Tuscola County: There is dissatisfaction existing in relation to the present method of rendering medical aid to the indigent poor of Tuscola County. First, among the people, because, by contracting with a certain physician to look after all the indigent cases in a certain township or district, they are robbed of the privilege of making their own choice of a physician, and are sometimes compelled to be treated by someone who is very distasteful to them and in whom they do not have that confidence and trust often so necessary to their comfort and satisfaction. Because of these peculiarities of people, a physician is sometimes called to care for and often does care for an indigent case for which he receives nothing because some other physician holds a contract for the township in which the patient lives.

With the candid desire of rendering these conditions more agreeable to all concerned, the Tuscola County Medical Society has formulated a plan which, if adopted, it is believed will obviate the difficulty and make harmonious the relationship of patient, physician and supervisor.

The plan, simply stated, is this: Let the supervisors pay to our society an average sum each year, such sum to be based on what has been paid for the medical care of the indigent poor of the county for the past three years, and each member of the Tuscola County Medical Society contracts to take care of all the indigent work that comes to him with an order from the supervisor.

Such a plan can cost the county no more for medical services than it has paid in the past. It will give to the poor patient the privilege of selecting the physician he would choose were he paying his own bills. It will tend to divide the indigent work more nearly equally among the several physicians of the county; and, at the same time, it will put into the treasury of the County Medical Society a fund, a portion of which it purposes to use for the general improvement of the society and its members individually, thereby bringing, directly, a benefit to all the people of the county.

The supervisors accepted the proposition and made a contract with the society. The society is to be paid in quarterly installments. In addition to the amount to be paid, which is about $4,000 per year, the county pays for all antitoxin and also agrees to pay all physicians who render extraordinary service in time of an epidemic of smallpox or other contagious diseases.

There are twenty-five members in the county society and about ten physicians who have not yet affiliated. It is expected that this movement will bring all regular physicians into the fold.

The proposed plan disposes of two vexing questions, namely, charity work by physicians and proper compensation by county boards. It also does away with competition and underbidding for county work among physicians, insures proper medical services for all indigent persons and so distributes this work as to make it burdensome for no one.

The Work of the Canadian Medical Association.

The October *Montreal Medical Journal* contains the address of the president, Dr. Alexander McPhedran, Toronto, at the fortieth annual meeting of the Canadian Medical Association at Montreal in September. Dr. McPhedran's address is interesting, showing the similarity of the problems which the organized profession in Canada is trying to solve, as compared with those confronting us in the United States. Reviewing the history of the association, Dr. McPhedran says:

This association should be the leader in all movements for their object the welfare and status of the profession and the advance of the scientific interests of the country. In the past, we have been satisfied with a quiet existence. It is surely time to awaken out of this Rip Van Winkle state and to develop the power of the association. The constitution was the best that could be devised to suit the needs of the time at the organization of the association, but it is ill adapted to the greatly altered conditions of the present. The time seems ripe for complete reorganization.

A committee was appointed two years ago to consider such changes as might be necessary. The constitutions of the British Medical Association and of the American Medical Association were carefully studied. The membership of the Canadian Medical Association is too small and too widely scattered to permit of either the district plan of organization of the British Medical Association or of the county plan of the American Medical Association. Accordingly, provision was made for provincial or interprovincial associations, and also for direct membership in the association in cases in which no local societies exist.

The Canadian Medical Association, like the British and American associations, finds one of its most important fields of work to be the regulation of medical education. Dr. McPhedran recommends that the quality of medical education be improved and also that an effort be made to bring about uniformity of requirements in the different colleges.

Regarding the relations of the profession to the public, Dr. McPhedran says:

It is highly desirable that the public should realize that the objects of this association are not only the benefit to the profession, but also, and chiefly, for the promotion of what is for the general good. It is not a trade union, but a national organization, which should have and has the nation's welfare for its chief object. . . .

Another matter demanding the prompt and earnest consideration of this association is the nostrum evil. Our friends to

the south have been waging an increasingly active crusade against this evil during the last few years, and duty to the public no less than our own interests demands that our action be prompt and energetic. The public does not understand the matter and has no conception of the enormous injury done to its best interests. Those among them who give serious thought to the matter, hold us responsible for their education in this question. I scarcely see how we can ignore the responsibility without detriment to our interests as well as to others. They will be ready, once they understand the matter, to aid in suppressing it, or in mitigating it where it can not be suppressed.

Dr. McPhedran strongly advocates the establishment of an official journal, pointing to the journals of the British Medical Association and the American Medical Association as examples of the power and usefulness of such official publications.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month.

RHEUMATISM AND GOUT.

First Weekly Meeting.

Anatomy of Synovial Membranes and Peri-articular Structures.
Anatomy of Endocardium.
Etiology of Acute Articular Rheumatism.

Second Weekly Meeting.

Acute Rheumatism: Pathology, Clinical History.
Acute Rheumatism: Complications, Treatment.

Third Weekly Meeting.

Acute Rheumatism in Children.
Muscular Rheumatism: Clinical Varieties and Treatment.
Chronic Articular Rheumatism: Pathology, Symptoms and Treatment.

Fourth Weekly Meeting.

Gout: Theories of Causation, Clinical Varieties.
Rheumatoid Arthritis: Etiology, Symptoms, Diagnosis.

Monthly Meeting.

Bacteriology of Acute Articular Rheumatism.
Dietetics in Rheumatism and Gout.
Therapeutic Action of the Salicylates.

FIRST WEEKLY MEETING.

Anatomy.

Articular Structures: Articular lamellæ of bone. Articular cartilages. Interarticular fibro-cartilages. Synovial membrane, structure, attachments, secretion, synovial ligaments.

Peri-articular Structures: Ligaments, structure, attachments. Muscles and tendons, tendon sheaths. Nerves and blood-vessels.

Endocardium: Origin, structure, thickness, reduplications, aortic valves, mitral valves.

Etiology of Acute Rheumatism.

"*Diplococcus rheumaticus*," staining and cultural characteristics. Other micro-organisms.

Predisposing Causes: Heredity. Age. Sex. Occupation. Climate, season and locality. Diet. Epidemics. Chronic endocarditis and chorea.

Mutual Protection in Canada.

According to a writer in the November number of the *Dominion Medical Monthly*, the Canadian Medical Protective Association, an organization of Canadian physicians for mutual protection along business and professional lines, was organized in 1901, and has been most satisfactorily managed, not a single case having been lost in which the association has undertaken the defense. The qualifications for membership are along the same lines as those for membership in the Canadian Medical Association. There are now 528 members and a bank balance of over $2,000.

INSIDE HISTORY OF THE KEELEY CURE.

STORY OF ITS ORIGIN, SHOWING THE FRAUDULENT METHODS EMPLOYED IN BUILDING UP THE BUSINESS.

[We have secured a copy of the record of Case No. 1619 in the United States Circuit Court of Appeals of the Sixth District, in which case the Memphis Keeley Institute, the Keeley Institute of Tennessee, C. B. James and C. C. James were appellants and the Leslie E. Keeley Company of Dwight, Illinois, was appellee. This case originated in a suit brought by the Keeley Company against the Memphis Institute, the Keeley Institute of Tennessee, C. B. James and C. C. James for violation of contract. It was begun in the Circuit Court of the United States in 1902, and, after a full hearing in that court, a decree was entered enjoining the defendants—the Memphis Keeley Institute et al.—from advertising that they used or were using the Keeley remedies for the treatment of the liquor, opium and tobacco habits. From this decree the appellants—the Memphis Keeley Institute et al.—perfected an appeal to the United States Circuit Court of Appeal of the Sixth District, which court rendered its decision in July, 1907, reversing the decree entered in the lower court and dismissing the bill of the appellees—the Leslie E. Keeley Company of Dwight, Ill.—for want of equity, on the ground that the Leslie E. Keeley Company was committing a fraud on the public and, consequently, did not come into court with clean hands.

The evidence in the case is voluminous, filling over a thousand closely printed pages. The testimony goes minutely into the methods of the "Keeley Gold Cure" people, and we shall probably make use of some of this later on. Below, however, we present the evidence of one of the witnesses, which gives some interesting inner history regarding the origin of the "Keeley Cure."]

Q. 1. By the defendant's solicitors: Please state your name, age, residence and occupation?

A. Frederick B. Hargraves; Evanston, Ill.; 57 years old; traveling salesman.

Q. 2. Were you ever connected with the Leslie E. Keeley gold cure for drunkenness, neurasthenia, opium, tobacco habit, etc.?

A. Yes, sir.

Q. 3. When were you connected with that institution and where?

A. My first connection with the institution was in 1880 at Dwight, Ill.

Q. 4. What was the nature of that connection?

A. Well, it was the very origin of the business; it was the beginning of the business; its first inception.

Q. 5. Please state how the business originated; about when and all in that connection.

A. Well, that would make quite a statement.

Q. 6. Well, just state how you came to be connected with it, and all about its origin as briefly as possible.

A. Well, that is going back a long time; Mr. Kelly, all I can do is to simply tell it as I remember it. It was in the spring of 1880, if my recollection serves me right, I think it was in the spring of 1880, I was on the lecture platform as a state lecturer in temperance work. When I would return to Dwight, from a trip I always made it a point to call on Dr. Keeley and have a social chat with him, as we were great friends. On one of these occasions I told the doctor about a mutual friend of ours at Cheona, Ill., named Dr. Dodd, a very prominent veterinary surgeon of Chicago. I told Dr. Keeley it was a pity that Dodd had to rusticate in Cheona on account of his drinking; that the pledge did not do him any good; and it was a pity we could not do something in some other way to set him right for good. We then compared notes; and I told Dr. Keeley I only knew of one thing that was recommended as a sure cure for the whisky habit; and he knew of the same thing; and we wondered if it would do any good in this case. We had a general conversation at that time on the subject. On my return from the next lecture trip, I called on Dr. Keeley again, as usual; and he told me he wondered if it would do any good in this case. We had a general conversation at that time on the subject. On my return from my next lecture trip, I called on Dr. Keeley again, as usual; he told me he had tried the remedy and had gotten good results from it. I very much doubted this and told him it seemed like a big story, but he said it was easily demonstrated; that he would get Pat Conafry, a

well-known saloonkeeper at Dwight, to take the remedy and test it. He said Pat would take anything he asked him to take, so he fixed up a bottle and gave it to Conafry; and in a few days he lost his desire for liquor, and could not drink any at the end of about a week. He, however, made strong efforts, and one Sunday got a drink to stick and got gloriously drunk and would not take any more medicine. The test, however, was sufficient for me; and that was the origin of the cure business.

Q. 7. Well, how did you proceed then?

A. Well, the next question was: "What should we do with it?" Dr. Keeley absolutely refused to be known in the matter at all, claiming it would hurt his professional reputation, and his standing with the Chicago & Alton Railroad, of which he was resident surgeon, if he got mixed up with a "patent medicine." He insisted that I should continue my lecture trips; and, as usual, try and persuade men to sign the pledge; and resort to usual methods to cure intemperance, or stop intemperance, and that I should publicly announce that if any man did not wish to adopt the usual methods, that I could give him some medicine that would stop his crave for drink. Dr. Keeley said that if I would do this, I would become the most popular lecturer in the country, and would make some money out of it besides. I would not consent to this plan; because, I told him I could only reach a limited number of people by this scheme, and if the remedy was what we thought it was, it ought to be generally known; it was too important a thing to confine to one man's efforts on the lecture platform. In the meantime we had given the medicine to Major John P. Campbell, who was then residing in Dwight. His home was in Lexington, Ky. It was at Dwight that we fixed him up so he could not get drunk; and he was quite enthusiastic about it. We had quite a number of conversations on the subject of going into the business; and I remained firm in the position I had taken; and finally I induced Keeley to allow his name to be used, and to go into the business in some kind of a fashion. The results of all these conversations and discussions extending over quite a period, were that we formed an agreement between Keeley, Campbell and myself to go into the business of manufacturing and selling the remedy for the cure of drunkenness. It was agreed that Keeley should furnish $100 worth of medicine; that Campbell should furnish $100 in money; and that I should furnish $100 in money, to start the business out. We finally decided to call the remedy "Dr. Leslie E. Keeley's Dis-Intoxicant." I can't remember just now whether we called it simply "Dis-Intoxicant" or Double Chlorid of Gold Dis-Intoxicant, but I have documents at home that show it.

Q. 8. You say Campbell was in the business, too?

A. Oh, yes; John P. Campbell.

Q. 9. Where is Campbell now?

A. I don't know. The last time I heard from him he was at the Soldiers' Home at Miller, S. D.

Q. 10. Did you and Mr. Campbell attempt to advertise or introduce this remedy?

A. Yes; the first thing we decided to do was to exploit it at Bloomington. At that time Keeley had his office in the rear of Seymour's drug store. Campbell and I went down to Bloomington and rented a room in the Ashley Hotel, and began to advertise for patients; and made an attempt to put the cure on the market there; and I think we were gone a month all together; and in the meantime Keeley had decided to cut loose and go into business in full shape; and so he rented the old printing office on West Street, which we used as the office of the cure.

Q. 11. Who did Dr. Keeley cut loose from at that time?

A. From the old office in the rear of Seymour's drug store; and took full interest in the business and allowed his name to be used fully; up to that time he had not been known in the business at all.

Q. 12. Well, what were the results at Bloomington?

A. We had rather a bad experience at Bloomington. We found it difficult to get people to take the remedy. It was a new thing, you understand; and people were skeptical; and we found it very hard work to persuade anyone to try it. We did get one patient, however; a man called Dalliba, a sewing machine agent. I remember the name, because it was the only one we had there.

Q. 13. Well, how did you treat him; and what was the result?

A. Well, we gave him the tonic remedy and were trying gold pills. We did not know anything about gold or what effect it would have especially, and were only experimenting. We had not given it to Conafry or Campbell. We had simply given the tonic preparation Keeley and I had first decided on; but I will explain that we realized that that was only a sobering up process anyway, and that we must have something better than that as a specific for the liquor habit; that is how we came to try gold.

Q. 14. Well, how did you try it; and in what form?

A. Well, we gave it to the patient in pill form; and came near killing the poor fellow. We had a bad time with him. Keeley had to come down two or three times; and we finally had to stop it. At one time Keeley sent gold powders in place of the gold pills.

Q. 15. Well, what was the kind of gold you used on this patient?

A. Chlorid of gold and sodium.

Q. 16. How did you administer it and how often?

A. We had it in pill form, but I can not remember how often it was given, but have documents at home that will throw light on that, but I can not remember; it was so long back.

Q. 17. Where did you go from Bloomington?

A. We went from Bloomington to Yorkville, where I had a lecture engagement; and there I sold a bottle of medicine to a banker named Cornell. I think he bought it to give away as an experiment. I remember I got $3 for it. That was the first money we made.

Q. 18. Well, what did you do then?

A. I returned to Dwight and found Keeley in the old printing office; and we then decided to advertise and try to make something out of the remedy if we could. We then decided to get out a circular after a good deal of discussion. It sounds almost amusing at this stage of the game to say we had a lengthy discussion as to whether or not we should spend $23 on the circular. Finally Keeley said, "Let her go." So we got out our first circular; and then to the best of my recollection, we called the firm name "Leslie E. Keeley, M.D." When Keeley finally decided to go into the business fully he wanted everything in his own name. He took the position that, as he was surgeon of the Chicago & Alton Railroad and formerly surgeon of the U. S. Army, it would give more tone and prestige to the business if his name was used and those titles given; and furthermore, he was the only doctor in the party; and so we decided to call the firm name "Leslie E. Keeley, M.D." At that time the only parties in the concern were Keeley, Hargraves and Campbell.

Q. 19. Did anybody else go into the firm; if so, who?

A. Perhaps I should tell how Campbell got out.

Q. 20. Well, tell that?

A. As I remember it, before anyone else came in, but I am not sure, but the records will show, I think, however, that Campbell went out before anyone else came in. Campbell was no good to us from a business point of view; and we decided we would be just as well off without him; and so Keeley gave him back his $100, and he stepped out; and after a little while he left the town.

Q. 21. Well, did you take on anybody else as a partner?

A. Yes, sir; when Keeley had his office in the rear of Seymour's drug store, Seymour had a "summer clerk," John R. Oughton;[1] and just about the time we began this thing Seymour got through with Oughton; and he was about to return to Chicago to look for another job. Keeley got the idea that Oughton might be useful to us in some way; possibly in the laboratory; and so Keeley persuaded Oughton to remain in Dwight, he (Keeley) agreeing to pay Oughton's board until we could find out whether the business was going to amount to anything or not. At that time Oughton was courting Miss Annie Murray, a niece of Father Halpin, the Catholic priest. So he was quite willing to stay on a few weeks longer in Dwight, naturally. After a while we thought it would be necessary to have Oughton to take an interest in the business, so that he would not disclose anything connected with the remedy or the business to outsiders; but, as Oughton had no money, Keeley persuaded Father Halpin to let Annie Murray put $500 into the business in Oughton's name, so as to give him an interest in the business. Annie Murray did so; and the money came in very handy, by the way.

Q. 22. Well, then, who came in next?

A. After a while we needed more money. At that time Keeley was putting up the money—not much—but what there was he put it up. He used to say to people that he furnished the money, and "our Fred," meaning me, "furnishes the brains." But Keeley hadn't much money at all. So it became necessary to get money outside. So we looked around and Keeley persuaded Father Halpin to put in $500.

Q. 23. Well, was there anybody else connected with the establishment after that?

A. After six months, or thereabouts, Major Judd returned from Colorado, where he had been nursing Frank Davis, a mutual friend of Judd and Keeley's, who died there. On

1. According to the testimony in this case, this John R. Oughton is the president of the Leslie E. Keeley Co., of Dwight, Ill., and has been since February, 1900.

Judd's return Keeley wanted him to go into the business. I was willing and so were the others; but we could not agree on a division of interests. Keeley had always promised me that when we came to define interests that I should have an equal share with himself; but when he wanted to take Judd in, he wanted to give Judd an equal share with himself; and give me, Oughton and Halpin lesser shares. I objected to this strongly; partly for the reason that I have just given, and partly for the reason that Judd had never put a dollar into the business. Keeley claimed that Judd had always had $1,000 in Jim Parson's safe, which he (Keeley) could have used in the business. I told Keeley I knew nothing about that, but I did know not a cent of Judd's money had ever been used in the business. Well, we talked a good deal about it, back and forth; and finally Keeley proposed that I should pay Judd $350 in cash, and that Oughton should pay Judd $350 in cash; and that then our shares should be the same as Judd's. I paid my $350, and then the interests were assigned as follows: Keeley, 3/10; Judd, 2/10; Hargraves, 2/10; Oughton, 2/10; Halpin, 1/10.

Q. 24. When did you sever your connection with the co-partnership, if it has been severed?

A. I think it was in 1886.

Q. 25. What was the remedy called at that time?

A. It was always called the Double Chlorid of Gold Cure.

Q. 26. Why was it called the Double Chlorid of Gold Cure?

A. Well, as I said a little while ago, we intended to use gold when we started out; and we did make a break at it; and it was an awful good name; and Keeley hated to part with the name.

Q. 27. As a matter of fact, did you use any more gold after your experience with the sewing machine agent?

A. No, sir; we hit on another remedy that did all we ever expected the gold to do; and it was a far more valuable specific for drunkenness than gold; and we used that in place of gold. Keeley has often said to me: "What a lucky thing we happened to hit on that drug," as it saved further experiments and was not dangerous.

Q. 28. Was there any gold or sodium in this remedy?

A. There is gold in everything, Mr. Kelly. There is gold in mud; there is a trace of gold. I know Keeley would often say: "There is a trace of gold anyway in it; and that is enough."

Q. 29. Was the chlorid of gold and sodium used as a part of the medicine after the sewing machine agent incident?

A. I do not think we used gold after the sewing machine agent's case and certainly not after we had been in business a few months.

Q. 30. I believe you consulted and discontinued its use and substituted another drug?

A. Yes, but I can not remember just when that was; but it was within a few months of the time that we first started the business.

Q. 31. Why was the name double chlorid of gold continued on the bottles, labels and advertisements?

A. Well, because Keeley claimed it was a very effective name to use—impressive—it would impress the people—it was a good thing to use.

Q. 32. Did the physicians believe in the efficacy of gold at the time—double chlorid of gold?

A. At that time gold was not used as a medicine to any extent; it has been used more since than at any time before.

Q. 33 What was the nature of that circular you got out, and who was its author?

A. Oh, it was a statement from me, as vice-president of the Illinois State Temperance League, calling attention to the discovery of the remedy; and a general statement of the remedy and its effects, and the main part was testimonials.

Q. 34. Were these testimonials from persons who had taken the remedy?

A. Why, no; I think we had one from Campbell—no other.

Q. 35. What was the nature of the testimonials?

A. They were testimonials from doctors and other people, claiming they had been cured.

Q. 36. Were they true?

A. Oh, no; manufactured for the purpose.

Q. 37. Do you know General Willoughby?

A. I know Willoughby.

Q. 38. Did you have a testimonial from him?

A. No; I think that was later in the game.

Q. 39. How did he sign his name?

A. A. P. Willoughby.

Q. 40. How was he advertised?

A. Why, Willoughby came down there and wanted to get control of several states. We agreed to let him have so many states if he would buy so much medicine and so many pamphlets—we had the pamphlets printed at Dwight.

Q. 41. His testimonials were signed General A. P. Willoughby?

A. That was on the backs of the pamphlets—his name and address—it was only one of Keeley's freaks—that was all.

Q. 42. Why was he called general?

A. Oh, that was simply this way: When I came to make out the copy for that address on the back of the pamphlet, I put it down A. P. Willoughby. Keeley said, "General A. P. Willoughby." "He wasn't a general," I said. Keeley said, "Yes, he is 'General Agent;' and it sounds better;" and so the pamphlets were printed that way.

Q. 43. What were your duties, Mr. Hargraves, in the company?

A. I was correspondent and literary man; the advertising man—I might call myself the general publicity man.

Q. 44. Who, then, wrote these testimonials set out in the pamphlets—in the ones I referred to just now. Were those written by Dr. Keeley?

A. You mean those representing patients cured?

Q. 45. Yes.

A. Oh, those were Keeley's inventions.

Q. 46. How was that managed?

A. Why, he simply got them up.

Q. 47. Just wrote the testimonials and signed the men's names to them?

A. Oh, yes; he said they were friends of his; and would not go back on it. He said we must have something to make a showing with. You must remember we were in pretty hard lines at that time. We were not "lying on flowery beds of ease."

Q. 48. Those testimonials would represent parties as taking the treatment and being cured by it; when, as a matter of fact, they had not taken the treatment at all?

A. Oh, no; they had not taken the treatment.

Q. 49. Now, what was the nature of the literature that you wrote, Mr. Hargraves?

A. Why, I think I wrote all the literature written with a few exceptions.

Q. 50. Whose name was signed to all the literature?

A. Leslie E. Keeley, M.D.

Q. 51. Was Dr. Keeley a literary man; could he write articles?

A. Oh, no; no one ever accused him of being able to.

Q. 52. Who wrote the "Pathology of Drunkenness," claimed by Dr. Keeley?

A. It was written by Dr. R. J. Curtis of Joliet.

Q. 53. Was it submitted to any of the firm?

A. Only to Keeley and myself.

Q. 54. Was Dr. Keeley's name signed to it?

A. Oh certainly; the reason we got Curtis to write it was: We did not know enough about it to write a statement at that time; and Curtis was a bright fellow, and afterward a professor in the College of Physicians and Surgeons, at Chicago. Curtis was under some obligation to Keeley; and so Keeley applied to him; and he wrote the "Pathology." I retained the original copy for a number of years. I am not sure if I have it yet or not.

Q. 55. Who wrote the work styled "The Morphin Eater, or from Bondage to Freedom," supposed to have been written by Dr. Leslie E. Keeley?

A. The chapters on "The Morphin Eater's Sensations, Feelings, Etc.," were written by E. N. Lewis, who was then a patient at Dwight. The rest of the book I wrote myself. At first it was intended as a literary venture; and Lewis and C. L. Palmer and I formed a partnership to put it on the market, Lewis and I doing the literary work and Palmer the printing. We published it, and shortly afterward Keeley made up his mind that it would be a good thing for the firm to use as an advertisement; and so the Keeley firm bought the copyright; and we afterward printed it and gave it away as an advertisement, purporting to be written by Leslie E. Keeley, M.D.; but he never wrote a word of it that I know of.

Q. 56. Well, when you first began treating patients at Dwight, did you treat at Dwight or away from there?

A. They were treated by correspondence, entirely so.

Q. 57. How was that managed?

A. Why, at first we simply sold it as a "patent medicine," you know. That was all we ever expected to do at that time but after a while I got up a series of treatment blanks; and when we shipped a package of the "remedy" to a man, I would have sent to him so many blanks and so many self-addressed envelopes of the firm; and would ask him to send us a blank filled out covering every two days of the treatment. It was a very pretty plan.

Q. 58. Did you submit these blanks to Dr. Keeley?

A. Oh, no; simply handled them myself and when through

with them filed them away. I never consulted Keeley except in a few important cases.

Q. 59. Well, when did you begin treating them at Dwight?

A. (I should say in addition to that last question that I wrote the directions for taking the liquor cure, and was perfectly familiar with the formula and all details of the business.) Well, we had been in business some few years—can not say exactly without referring to records—it was four years probably—and found quite a number of cases did not get cured by the home treatment—nothing surprising in that; and so we hit on a plan of getting patients to come to Dwight; and we would write and tell a man that there were peculiarities about his case which were not amenable to home treatment; and, that if he would come on to Dwight and put himself under the personal care of Dr. Keeley, we could give his case the attention it needed. That was the origin of the "institute treatment." I think we charged them about $10 a week, or such a matter.

Q. 60. Was the medicine internal at that time?

A. Yes, sir.

Q. 61. What did you charge for the home treatment?

A. $9 a pair for the liquor cure; $10 for the opium; $5 for the tobacco; $5 for the neurasthenia, which last we afterward raised to $8 because we thought a man would give $8 for it just as quick as he would give $5.

Q. 62. When did the hypodermic injection originate, how and why?

A. That is very simple; after a few patients came for treatment, we found it very difficult to hold them, as Dwight was a little, muddy, out-of-the-way village of 1,800 inhabitants with no attractions, nothing to do or see and nowhere to go; and a city man would get tired out in two or three days and want to go home; and we tried giving them walks, having them walk up to the first crossing of the railroad and back, and finally Keeley thought of the idea of giving them a specific object to engage their attention several times a day, and he decided to give the hypodermic injection four times a day, and made it obligatory on the patients to report four times a day for the purpose of taking hypodermic injections so as to create an impression of the importance of this treatment on them.

Q. 63. What was the nature of the hypodermic injection?

A. It was simply in the nature of a placebo and had no medical effect, and was not intended to have any medical effect. It afterwards developed, however, that it was advisable to use a medicated form of injection.

Q. 64. What is a placebo?

A. Oh, did I use a Latin word? Placebo—it means to satisfy.

Q. 65. What composed the hypodermic injections at first?

A. Oh, nothing particularly; distilled water, perhaps.

Q. 66. What composed the hypodermic injections afterward?

A. Afterward we used different forms of medication, and I remember one particular case where a man had been taking injections for several days and had not seen any difference as to their effects and his condition; and he finally complained to Keeley that the injections were no good, and he didn't believe in them. So the next day Keeley gave him an injection with something in it, and the man didn't have it more than a minute or two before he felt it, and said: "My God, Keeley, what have you given me?" Keeley replied: "I want you to understand that this is a cumulative remedy. You said you hadn't felt it, but now you feel it, do you?"

Q. 67. What was the nature of the injection he gave him at that time?

A. Well, I shall decline to answer that question, Mr. Kelly.

Q. 68. Was it gold?

A. No, it was not gold; I will state that much.

Q. 69. But it was an injection that he would feel immediately?

A. Oh, yes.

Q. 70. What sensations did the man complain of after he had taken the injection you have just spoken of?

A. Why, I do not remember just exactly; it made him kind of dizzy, and he felt that he had gotten something in him.

Q. 71. Did they give patients in the injection morphin or atropin?

A. Oh, yes; they always gave morphin to morphin patients.

Q. 72. Did they give atropin to whisky patients?

A. I decline to answer that.

Q. 73. Did you give any morphin injections to the whisky patients to produce sleep or rest?

A. I do not think we did. If we did, it was a very rare occurrence.

Q. 74. When did this firm begin the cure of the opium habit, and how did that come about?

A. Well, you see, I can not remember the date. It was a few months after beginning the liquor cure that we came to the conclusion, Keeley and I, that there were not enough people that wanted to be cured of the liquor habit to make it a profitable business. You see, we were having a hard time to make it go then, and we decided it would be a good idea to add an opium cure. We knew there were two or three opium cures in the country making money, and so we decided to add the opium cure. The only trouble about it was neither of us knew anything about it. At that time Keeley was continuing his private practice, which was absolutely necessary in order to make as much money as he could, as the business wasn't making any. And so I went to work, and collected all the literature I could find bearing on the subject, and made a careful and exhaustive study of the opium and morphin habits. Every night Keeley and I would get together in the office and I would go over my researches with him. Sometimes I would drive out in the country with him when he went to see his patients, so that we could talk it over. And after we had gotten something like a definite knowledge of the opium and morphin habit, the question was what we should use first as an antidote. We experimented with a great many drugs before we finally got a mixture we thought would be of any use as a cure for the morphin habit, but even after we got to using it, it was all experimental for quite a long time, and we kept changing it from time to time.

Q. 75. Was there any gold in that preparation—salts of gold—chlorid of gold—double chlorid of gold and sodium in that preparation?

A. Oh, no; nothing of the kind. There were none of those things in the preparation. Double chlorid of gold is simply a technical name. It simply means the two chlorids of gold and sodium.

(To be continued.)

Miscellany

One State Really Prohibiting Noxious Nostrums.—Massachusetts is really enforcing its laws against noxious nostrums and protecting its citizens from the prohibited cocain mixture. *Collier's Weekly* says that "many progressive steps" have been taken by "what has for a long time been one of Massachusetts' most successful bodies—her Board of Health. . . . During the last year it has grappled ably with one of the most serious duties which confronts it and bodies like it in all our states." The law, which became effective September 1, 1906, provides that "it shall be unlawful for any person (including physicians) to sell or to expose or offer for sale or to give or exchange any patent or proprietary medicine or article containing cocain or any of its salts or alpha-eucain or beta-eucain or any synthetic substitute of the aforesaid." Previous to the enactment of this law, every druggist sold proprietary preparations containing cocain in some form. The subsequent results are thus summarized by *Collier's:*

"During the first month after the law went into effect, namely, September, the following preparations containing cocain were advertised by the board and the sale of them prohibited:

> Crown Catarrh Powder, Dr. Agnew's Catarrh Powder, Dr. Cole's Catarrh Cure, I. C. R. Instant Catarrh Relief, Pretzinger's Catarrh Balm.

"During the same month two prosecutions were made and two convictions secured for violating the law. In October the following were advertised as unsalable at retail:

> Allenbury's Throat Pastilles, No. 9; Specific for Asthma, Hay Fever and all Catarrhal Diseases of the Respiratory Organs, Nathan Tucker, M.D., Mt. Gilead, Ohio.

"During this month four convictions were secured. The next list of preparations advertised comprised several non-proprietary preparations commonly sold without prescription. For this reason attention was called to the fact that druggists may no longer sell them except on prescription. These are:

> Compressed Pills Throat, Mentholated, John Wyeth & Bro., Inc.; Compressed Pill Nausea, John Wyeth & Bro., Inc.; Compressed Voice Tablets, John Wyeth & Bro., Inc.; Antivomiting Tablets, Mulford; Tablets, Antivomiting, No. 2, Mulford; Compressed Tablets, Creosote Comp. No. 2, C. Kilgore, New York.

"During this month three more convictions were secured. In December it was discovered that a new preparation had appeared under the name of 'Standard Catarrh Powder.' This powder was analyzed and found to contain cocain. It was further found to be manufactured by the same persons who

had prepared the 'I. C. R. Instant Catarrh Relief,' but under the name of 'Standard Catarrh Powder Company.' Accordingly, this preparation was advertised as unsalable at retail, together with the following:

Reeves' Coca and Tolu Cough Drops, Reeves Drug and Chemical Company, Cambridge, Mass.; Coca Wine, Ropes Drug Company, Salem; Coca Wine, W. B. Markell's Drug Stores; Coca Wine, Lewis, the Manufacturing Chemist, Boston; Peruvian Wine of Coca, Keystone Chemical Company, Philadelphia; Mattison's Coca Wine, E. F. Mattison, Providence, R. I.; Wine of Coca, Davies, Rose & Co., Boston; Metcalf's Coca Wine, Theodore Metcalf Company, Boston; Dr. Earl's Coca Wine, New York and Boston Drug Co., Boston; Epstein's Wine of Coca, Epstein's Cut Price Drug Store, Boston.

"In June of this year the following preparations containing cocain were added to the list of preparations advertised as unsalable:

Vin Mariani, Dr. Birney's Catarrhal Powder, Green's Coca Wine, Peruvian Coca Wine.

"In spite of the decision of the authorities of several other states with reference to the Vin Mariani preparation, the Massachusetts Board of Health was governed entirely by the laws of Massachusetts, and, inasmuch as the preparation was found to contain cocain, it has been advertised as unsalable at retail, even on prescription. In February four convictions were secured on the so-called 'Standard Catarrh Powder,' under the names of 'I. C. R. Catarrh Snuff' and 'Standard Catarrh Snuff.' In March the manufacturers of 'Standard Catarrh Powder' put substantially the same preparation on the market under the name of 'Gem Catarrh Powder, Gem Medicine Company, Boston.' This powder, in addition to the preparation known as 'Rudolf's Kola-Cardinette, Palisade Manufacturing Company, Yonkers, N. Y.,' was accordingly advertised as unsalable at retail. Following this advertisement, two of the three convictions secured were for the sale of the 'Gem Catarrh Powder.' In May two more preparations were advertised as unsalable at retail: 'Anglo-American Medicine Company's Catarrhal Powder, Anglo-American Medicine Company, Chicago, Toronto.' (This preparation was manufactured by the same concern that had prepared 'Dr. Agnew's Catarrh Powder.') The other preparation advertised during May was 'Maltine with Coca Wine, Maltine Manufacturing Company, New York.' During the month of June sixteen convictions were secured. Since June two preparations have been added to the list of cocain preparations unsalable at retail:

The Miles Mixture for Catarrh, Miles Medicine Company, Boston; Vin Tonique Mariani, Mariani, 41 Bd. Haussmann, Paris.

"Since June seven convictions have been secured for the sale of the following preparations:

Maltine with Coca Wine, Vin Mariani, Standard Catarrh Cure.

"In spite of an attempt on the part of a special justice to prevent the enforcement of the laws, the work of the board has continued to be efficient. Every one of the eight prosecutions for the sale of proprietary medicines containing cocain, during the last month of which the record is before us—September 16 to October 16—has resulted in conviction. We commend this narrative to the boards of various other states. Meantime the compulsory labeling of cocain preparations under the pure food law is exercising a wide restraint."

The Evangelical Episcopalian.

THE JOURNAL has had occasion, at different times,[1] to call attention to some of the better class of religious journals which do not carry nostrum advertisements. We quoted from *Collier's Weekly* on this subject last week. A lay correspondent calls attention to the fact that one church paper, which in all its nearly twenty years' existence has never carried nostrum advertisements, has been overlooked. The paper referred to is the *Evangelical Episcopalian*, published in Chicago as an "exponent of the principles of the Reformed Episcopal Church." When this publication was in its ninth year of existence its editor, writing on the subject of nostrum advertising, said:

The *Evangelical Episcopalian* could long ago have been placed on a more secure financial basis had it not peremptorily declined thus to corrupt its columns. We solicit the attention of the advertising public to this fact, and ask our business friends to note that in this journal no proper commercial announcements will be found touching elbows with the conspicuous advertisements of quackery and fraud.

As our correspondent says, had our attention been called to it earlier, this journal would have been included in the list of honorable mention among "those religious papers which do not lend their pages to fraudulent nostrums, and by reason of priority the name of the *Evangelical Episcopalian* would have 'led all the rest.'"

Investigation of the Poliomyelitis Epidemic in New York During 1907.—Committees have been appointed by the New York Neurological Society and by the Section on Pediatrics of the New York Academy of Medicine to investigate the epidemic of poliomyelitis which occurred in New York in 1907, and Dr. Edwin G. Zabriskie, secretary of the joint committee, asks us to publish the following letter:

The members of the committees above mentioned are anxious to make a thorough investigation of, and to collect all the data relative to, the epidemic of poliomyelitis of 1907 in New York City and its immediate vicinity. To this end they must have the cooperation of all those who have had, or will have, an opportunity of studying this disease in hospital or private practice. Physicians willing to assist in this work will kindly inform the secretary, Dr. Edwin G. Zabriskie, 37 West Fifty-fourth street, New York City, who will send history forms so as to secure uniform records. Physicians who can not collaborate with the committee will confer a favor by reporting to the secretary, the number of cases of poliomyelitis they have treated during the past six months. The committee is desirous of covering as large a territory as possible and will welcome reports of epidemics elsewhere in the country.

The joint committee wishes to state most emphatically that due credit will be given to everyone who contributes to this collective investigation, and that the publication of the committee's report will in nowise interfere with any article or articles to be published on this subject. Moreover, the report will certainly not be printed earlier than a year from date, so that medical men will have ample time to publish their articles long before the committee will have its report ready.

The following physicians are members of the committees:

Committee of the Neurological Society—B. Sachs, chairman; E. G. Zabriskie, secretary; J. R. Hunt, J. F. Terriberry, L. Pierce Clark, Simon Flexner, for the Rockefeller Institute; C. F. Bolduan, for the Department of Health of New York City.

Committee of the Section on Pediatrics of the New York Academy of Medicine—L. E. LaFetra, Herman Schwarz, L. C. Ager.

Differentiation of Tuberculous Processes on the Tongue.—Dalla Vedova states that he has found records in the literature of 23 cases in which a tuberculous process on the tongue was excised on the supposition that it was a malignant growth. This also occurred in one of two cases in his own experience. In a communication in the *Policlinico* for March, 1907, he discusses the subject from various standpoints, his conclusion being that it is absolutely necessary to excise a scrap from the bottom of the ulcer for histologic and bacteriologic examination, in every case of ulceration of the tongue, without exception. It is generally done in dubious cases, but the cases in which the surgeons were most positive as to the nature of the tumor proved to be the ones in which they were most misled. He does not advise waiting to inoculate animals with the material, as this would waste precious time in case of a true neoplasm.

Marriages

SAMUEL HOBERMAN, M.D., to Miss May Strick, both of Newark, N. J., November 9.

ALBERT KRAMER, M.D., Butler, Ind., to Miss Dora Snyder of Indianapolis, November 12.

GEORGE RENEAU RAU, M.D., to Miss Abbie Searcy, both of Tuscaloosa, Ala., November 12.

J. FRANK CROUCH, M.D., to Mrs. Caroline Rennert Dieter, both of Baltimore, November 14.

JOHN C. HICKERSON, M.D., to Miss Bessie Hughes, both of Independence, Mo., November 14.

JOHN EUGENE OSBORNE, M.D., Rawlins, Wyo., to Miss Selina Smith of Princeton, Ky., November 2.

DARIUS CARRIER MOORE, M.D., Monaca, Pa., to Miss Nellie Jackson of Warren, Ohio, November 6.

RICHARD WILTZ VINCENT, M.D., Sulphur, La., to Miss Mary L. Burton of Orange, Texas, November 14.

1. THE JOURNAL, April 21, 1906, 1221; Feb. 2, 1907, 423 and 425; Feb. 9, 1907, 534; Feb. 16, 1907, 623-625; April 20, 1907, 1366; Aug. 10, 1907, 510.

HENRY LEE SMITH, M.D., Baltimore, to Miss Elise Garr Henry, at Morristown, N. J., November 14.

LLOYD NOLAND, M.D., Colon, Canal Zone, to Miss Margaret Gillick, at East Orange, N. J., November 7.

GUSTAVUS P. ENGLISH, M.D., to Mrs. Jessie Louise Hoover Owen, both of Boonville, N. Y., November 11.

JOHN R. MCCURDY, M.D., Pittsburg, Pa., to Miss Bertha Bernice Budka of Canonsburg, Pa., November 14.

ALBERT CLIFTON SELLERY, M.D., Long Beach, Cal., to Miss Eleanora Dennis of Toronto, Ont., October 30.

CARROLL LAWRENCE STORY, M.D., Whitehall, Wis., to Miss Mary Shurtleff, at Oberlin, Ohio, November 23.

GEORGE WASHINGTON PAPEN, JR., M.D., Albany, N. Y., to Miss Lila Ramsdell of Lynn, Mass., November 8.

JAY DALLENBACH, M.D., Seattle, Wash., to Miss Reba Bryan of Philadelphia, at New York City, November 17.

FRANK E. OSBORN, M.D., Beatrice, Neb., to Miss Cora Shaffer of Lincoln, Neb., at Thompson, Ill., November 6.

WILLIAM A. EVANS, M.D., Chicago, to Mrs. Ida May Wildberger of Memphis, Tenn., at Chicago, November 20.

GEORGE GILES HAWKINS, M.D., to Miss Neva Lunell Piner, both of Middletown, Cal., at Napa, Cal., November 6.

HARRY WILLIAM SHAW, M.D., Junction City, Ohio, to Miss Louise Crawford Jones of Gallipolis, Ohio, November 6.

RICHARD KUEHNE, JR., M.D., West Hoboken, N. J., to Miss Laura Ethel Meredith, in New York City, Novemebr 6.

Deaths

Franklin Bonney, M.D. Dartmouth Medical School, Hanover, N. H., 1847; a member of the Massachusetts and Hampshire district medical societies for 57 years; who represented his district in the legislature in 1873; served as surgeon and examiner of recruits during the Civil War; for many years a member of the board of corporators of the Clarke School for the Deaf, Northampton, and who lived in Hadley, Mass., until two years ago, died at the home of his son in Ashmont, Boston, November 9, aged 85.

Wesley W. Essick, M.D. Medical Department of the University of Nashville, Tenn., 1882; a member of the Illinois State and Jackson County medical societies; professor of railway surgery in the College of Physicians and Surgeons, St. Louis; local surgeon of the Mobile & Ohio Railway, and a member of the board of health of Murphysboro, Ill., was run over by a switch engine and almost instantly killed at Murphysboro, November 15, aged 53.

William Lincoln Downing, M.D. Rush Medical College, Chicago, 1886; a member of the American Medical Association, Tri-State Medical Society of Iowa, Illinois and Missouri, and Des Moines Valley Medical Association; local surgeon of the Chicago, Burlington & Kansas City and Wabash railways at Moulton, Iowa; died at a hospital in Chicago, November 2, after an illness of six weeks, aged 45.

Robert Disbrow, M.D. Medical School of Harvard University, Boston, 1865; a member of the Massachusetts and Suffolk district medical societies; acting assistant surgeon, One Hundred and Ninth United States Infantry in the Civil War; at one time district physician to the Boston Dispensary; died suddenly from heart disease, in Young's Hotel, Boston, November 9, aged 65.

Thomas H. Holgate, M.D. Bellevue Hospital Medical College, New York City, 1869; a member of the medical societies of the State and County of New York and the New York Academy of Medicine; attending physician outdoor department Bellevue Hospital; who had been confined to his house in New York City by rheumatism for nearly ten years; died November 14, aged 76.

J. J. Temple, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1848; a Civil War veteran; for many years a practitioner of Covington, Ky., but for the last 25 years an employé of the Pension Bureau, Washington, D. C., died suddenly, from cerebral hemorrhage, at the home of a relative in Covington, Ky., November 11, aged 86.

Thomas Baird Whitesides, M.D. Medical College of the State of South Carolina, Charleston, 1858; surgeon of the Seventeenth South Carolina Infantry, C. S. A., during the Civil War; a member of the York County (S. C.) Medical Society; died at his home in Blacksburg, S. C., June 17, from heart disease, after an illness of several months, aged 68.

David Grant, M.D. University of Glasgow, Scotland, 1880; a member of the Medical Society of the State of California and Los Angeles County Medical Society; for many years a medical missionary in China, and later a specialist in the diseases of the eye in Los Angeles; died in Inverness, Scotland, June 3, aged 55.

George Hall, M.D. Marion-Sims College of Medicine, St. Louis, 1897; a member of the Kansas and Nemaha County medical societies; local surgeon of the St. Joseph & Grand Island Railroad; died at his home at Baileyville, Kan., November 15, from typhoid fever, after an illness of one month, aged 38.

James W. S. Emerson, M.D. University of Tennessee, Medical Department, Nashville, 1899; a member of the American Medical Association; was found unconscious in Goldfield, Nev., November 8, and died in the Esmeralda County Hospital half an hour later, from pneumonia, aged 31.

Dana J. Morrell (Years of Practice, Vt.); some-time selectman and constable of Swanton, Vt.; member of the legislature in 1872, and twice sheriff for Franklin County; died at his home in North Troy, October 20, from cirrhosis of the liver, after an illness of four years, aged 78.

William Irvin Dowler, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; a member of the Medical Society of the State of Pennsylvania and Cambria County Medical Society; died at his home in Patton, Pa., November 4, from disease of the stomach, aged 51.

Frank R. Martin, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1873; formerly of Kyle, Texas; a member of the State Medical Association of Texas and Travis County Medical Association; died at Austin, Texas, September 15, aged 60.

George H. Carder, M.D. Chicago Homeopathic Medical College, 1882; for 20 years a practitioner of Auburn Park, Chicago, and later of Pasadena, Cal.; died suddenly at the bedside of a patient in that city, November 4, from heart disease, aged 57.

John Dickson Crane, M.D. Albany (N. Y.) Medical College, 1905; of Hawley, Pa.; a member of the staff of the Central Islip State Hospital, L. I.; died at a sanitarium in Brentwood, L. I., November 8, after an illness of four months, aged 26.

Eli M. Pinney, M.D. Worthington Medical College, Cincinnati, 1839; an eclectic practitioner of Dublin, Ohio; died at the home of his granddaughter near Dublin, November 9, from cerebral hemorrhage, after an illness of four days, aged 90.

Claude Eustace Kilborn, M.D. Manitoba Medical College, Winnipeg, 1907; who purposed leaving for China as a medical missionary in November; died in Winnipeg, September 7, of typhoid fever, after an illness of three weeks, aged 29.

Charles Sumner Arnold, M.D. New York University Medical College, New York City, 1883; a member of the medical societies of the State of New York and Otsego County; died at his home in Mount Vision, N. Y., April 23, aged 51.

Samuel J. Boyd, M.D. College of Physicians and Surgeons of Chicago, 1893; a member of the American Medical Association; died at his home in Chicago, November 20, from myocarditis, after an illness of about four years, aged 46.

Henry S. Angell, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1869; a veteran of the Civil War; died at his home in Los Angeles, Cal., October 25, from paralysis, after an illness of nearly two years, aged 74.

Warren Russell Davis, M.D. University of Vermont College of Medicine, Burlington, 1882; a member of the Connecticut and New London County medical societies; died recently at his home in Voluntown, Conn., aged 69.

William A. Brown, M.D. University of the South, Medical Department, Sewanee, Tenn., 1897; of Pipestone, Minn.; died at the home of his brother in that city, from pneumonia, November 8, after a short illness.

Edward George Alsop, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1862; died at the home of his daughter in Newport, Va., November 10, after a lingering illness, aged 68.

George Samuel Barrows, M.D. Hahnemann Medical College and Hospital of Chicago; died at his home in Marion, Kan., November 1, from senile debility, after an illness of more than two years, aged 92.

Earl D. Burger, M.D. Jefferson Medical College, Philadelphia, 1900; a member of the Indiana State and Vanderburgh County

medical societies; died at his home in Howell, Ind., November 12, aged 29.

Lionel R. Black, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; died at his home in Wilkinsville, S. C., November 7, after an illness of six weeks, aged 31.

Jacob Pindle Shafer, M.D. Louisville (Ky.) Medical College, 1882; of Terre Alta, W. Va., died at a hospital in Baltimore, November 10, after a protracted illness, aged 70.

Hamilton Wolfe, M.D. University of Louisville (Ky.) Medical Department, 1867; died at his home in Washington, Ind., November 9, from senile debility, aged 97.

Moness Friedman, M.D. Imperial Russian University of Kharkoff, 1892; died suddenly at his home in St. Louis, November 14, from heart disease, aged 41.

Henry Kittinger, M.D. Bellevue Hospital Medical College, New York City, 1875; died at his home in Winnamac, Ind., November 10, from paralysis, aged 76.

Elie Barnard, M.D. Laval University, Medical Department, Quebec, 1884; formerly of Worcester, Mass.; died at his home in Brockton, Mass., July 2, aged 57.

Luther W. Adgate, M.D. Vermont Medical College, Woodstock, 1849; formerly of East Hardwick, Vt.; died at his home in Pomona, Cal., June 6, aged 82.

Richard Schultz, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1870; of Cottonwood, Cal., died in San Francisco, August 16.

J. Wilson Richie, M.D. Eclectic Medical Institute, Cincinnati, 1871; died at his home in Birdville, Texas, June 18, aged 72.

Joel Parker, M.D. Kentucky School of Medicine, Louisville, 1881; of Sebree, Ky., is reported to have died September 22.

John Wyre Considine (Examination, Ontario), 1869; died at his home in Port Dalhousie, Ont., November 12, aged 88.

W. L. Julian, M.D. Louisville (Ky.) Medical College, 1888; of Fitzgerald, Ga.; died suddenly, November 14, aged 60.

J. J. Hardin, M.D. Louisville (Ky.) Medical College, 1872; died at his home in Brookville, Miss., November 3.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CALIFORNIA Board of Medical Examiners, Los Angeles, December 3. Associate Secretary, Dr. F. Dudley Tait, 1879 Sutter St., San Francisco.

MARYLAND Homeopathic Board of Medical Examiners, Baltimore, December 3. Secretary, Dr. Joseph S. Garrison, 484 W. North Ave., Baltimore.

PENNSYLVANIA Boards of Medical Examiners, Philadelphia, December 3-6. Application for examination should be made to Dr. N. C. Schaeffer, Secretary of the Medical Council, Harrisburg.

DELAWARE State Medical Examining Board, Dover, December 10, and by the Homeopathic Board at Wilmington on same date. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

OKLAHOMA State Board of Medical Examiners, Guthrie, December 10-11. Secretary, Dr. J. W. Baker, Enid.

OHIO Board of Medical Registration and Examination, Columbus, December 10-12. Secretary, Dr. George H. Matson, State House, Columbus.

IOWA State Board of Medical Examiners, Capitol Building, December 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

MARYLAND Board of Medical Examiners, 847 N. Eutaw St., Baltimore, December 10-13. Secretary, Dr. J. McP. Scott, 129 W. Washington St., Hagerstown.

KENTUCKY State Board of Health, Louisville, December 17. Secretary, Dr. J. N. McCormack, Bowling Green.

VIRGINIA Medical Examining Board, Lynchburg, December 17-20. Secretary, Dr. R. S. Martin, Stuart.

Object of Medical Legislation.—Those interested in the maintenance of fair standards of medical education and in the securing of medical laws will agree with this from the *Wisconsin Medical Journal:*

"The purpose of all medical legislation is to protect the public, not the doctors. The legitimate doctor needs no protection—nor does he ask it. In fact, no restrictive legislation as to qualification for the practice of medicine redounds to the financial and professional advantage of the well equipped and able physician, if ethical considerations and the interests of the public are disregarded. The malpractice of the quack and charlatan will sooner or later drive the unfortunate victim, if he survives, to the reputable physician for treatment, and his aggravated ailment, by reason of his experience with the quack and charlatan, will increase the fee for efficient, reputable medical service."

Medical Standards in New York.—In the *New York State Journal of Medicine*, August, 1907, the effects of the new medical practice act are commented on at length. The new law does not recognize any "school" of practice. The examiners consist of nine physicians appointed by the regents from any school or schools as they may choose and the only qualification is that the examiner must be a "legal practitioner of not less than five years' standing prior to appointment." Materia medica and therapeutics, including practice, are not included among the subjects for examination, these subjects being passed on by the medical schools themselves. Candidates must be graduates from medical colleges maintaining standards satisfactory to the regents.

The problem of sects in medicine is to be forever set at rest under the new law. Until 1910 osteopaths will be allowed to be registered as osteopaths after three years' study if they pass the same examination that all physicians will have to pass. After 1910, however, "the only license issued will be the license to practice medicine and the only college recognized will be the medical college. Whether the licentiate practices homeopathy, osteopathy, or some other peculiar method will not be considered in his license. He is licensed to practice all methods and if he restricts himself to one, it is a matter with which the state has no concern."

Statutory Law and Sectarian Medicine.—In the *Ohio State Medical Journal*, Oct. 15, 1907, Dr. A. Ravogli argues that the constitutionality of the recognition of sectarian medicine is much to be doubted. This is a question of much importance at the present time, owing to the increasing demands of osteopathy, neuropathy, etc., for separate boards and special provisions in practically all states of the Union. That the granting of special privileges constitutes class legislation is coming to be clearly recognized. Among other things, Dr. Ravogli says: "In Europe, where the system of education is concentrated in the government as supreme power, . . . sectarian medicine has no recognition. A man has to study medicine in all its branches as it is prescribed . . . and when he has obtained his diploma then he can choose to practice" whatever system of medicine he chooses. "Indeed, the science and art of healing deserves the most serious attention on the part of the government interested in the welfare of the citizens."

"The state has recognized medicine as the great science and art of preventing and healing human infirmities. This noble art is recognized on the knowledge of arts and sciences and is based on observation, on experiment and on clinical experience. The state has not taken steps to inquire into the theories and the ways of administering remedies and as to whether the school is of regular or sectarian denomination. The interest of the state is that physicians practicing the art of medicine shall be duly qualified and that the public be protected from impostors. . . . The therapeutic application by means of herbs, of powders, of solution or of manipulation is left to the practitioner."

Nebraska October Report.—Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the examination held at Lincoln, Oct. 15, 1907. Only one candidate, a graduate of the Medical Department of Drake University, 1885, was examined, who passed with a percentage of 80. Nine reciprocal licenses were granted at this examination. The following colleges were represented:

LICENSED THROUGH RECIPROCITY.

	Year Grad.	Reciprocity with.
Northwestern Univ. Med. School	(1903)	Iowa
College of P. and S., Chicago	(1907)	Illinois
Rush Med. Coll.	(1906)	Illinois
Bennett Coll. of Ecl. Med. and Surg.	(1907)	Illinois
Eclectic Med. Coll. of Indiana	(1895)	Kansas
University of Kansas	(1906)	Kansas
Baltimore Med. Coll.	(1894)	Illinois
Queen's University, Kingston, Ont.	(1890)	Michigan
Queen's University, Kingston, Ont.	(1898)	Illinois

Rhode Island October Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Oct. 10-11, 1907. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 20, of whom 7 passed and 13 failed, including 2 nongraduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Yale University	(1906)	80
College of P. and S., Baltimore	(1907)	81.6
University of Maryland	(1907)	85.5
Tufts Coll. Med. School	(1907)	80.4, 81.1
Harvard Med. School	(1906)	80.1
Jefferson Med. Coll.	(1882)	80

FAILED.

Baltimore Med. Coll.	(1906)	67.9; (1907) 62.5, 64.3, 68.2, 69.6, 72.9
Baltimore University	(1907)	70.1
Maryland Med. Coll.	(1907)	66.8
Long Island Coll. Hospital	(1905)	72
Laval University, Quebec	(1905)	63, 64.9

Wyoming October Report.—Dr. S. B. Miller, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Laramie, Oct. 9-11, 1907. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, of whom 2 passed and 2 failed. Eleven reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1898)	80
University Med. Coll., Kansas City	(1902)	76.8

FAILED.

College of P. and S., Chicago	(1907)	71.6
University of Basel, Switzerland	(1887)	37.8

LICENSED THROUGH RECIPROCITY.

	Year Grad.	Reciprocity with.
American Coll. of Med. and Surg.	(2, 1905)	Illinois
Rush Med. Coll.	(1898)	Indiana
Northwestern Univ. Med. School	(1902)	Illinois
Hahnemann Med. Coll., Chicago	(1905)	Illinois
Keokuk Med. Coll., Coll. of P. and S.	(1907)	Iowa
University of Michigan	(1903)	N. Dakota
Hamline University	(1897)	Illinois
Univ. Med. Coll., Kansas City	(1905) Kansas; (1907)	Missouri
Barnes Med. Coll.	(1907)	Missouri

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gyn. Assn., New Orleans, Dec. 17-19.
American Association of Anatomists, Chicago, Dec. 26-27.
Western Surgical and Gyn. Assn., St. Louis, Mo., Dec. 30-31.

VERMONT STATE MEDICAL SOCIETY.

Ninety-fourth Annual Meeting, held at St. Johnsbury, Oct. 10-11, 1907.

The President, DR. DONLEY C. HAWLEY, Burlington, in the Chair.

The society was honored this year by the presence of the President-Elect of the American Medical Association, Dr. Herbert L. Burrell of Boston, who gave an interesting address.

Committee on Education Provided.

It was voted to amend the constitution so as to have a committee on medical education. The committee on legislation was instructed to present a bill to the next legislature for the state to furnish, free of charge, antitoxin for the treatment of diphtheria. The matter of uniting with other states to form branch associations was left to a special committee, to report to the next annual meeting.

Officers Elected.

The following officers were elected: President, Dr. George H. Gorham, Bellows Falls; vice-president, Dr. J. F. Blanchard, Newport; secretary, Dr. C. H. Beecher, Burlington; treasurer, Dr. B. H. Stone, Burlington; committee on legislation, Dr. F. T. Kidder, Woodstock; Dr. H. D. Holton, Brattleboro; Dr. E. R. Campbell, Bellows Falls; delegate to the American Medical Association, Dr. J. N. Jenne, Burlington.

The place of next meeting will be Rutland, Oct. 8-9, 1908.

Surgery of the Rectum.

DR. D. C. HAWLEY, Burlington, in his presidential address, said that the correct diagnosis of rectal diseases is the exception rather than the rule with the average practitioner, most of them calling all diseases of the rectum piles. He believes that the trouble is with medical schools, which pay but little attention to this organ. It is very important to make an early and correct diagnosis of any disease that is located in the rectum, and to do this it is necessary to make a thorough local examination. One should be very careful in making rectal examinations not to cause the patient any pain. The knee-elbow position is the best for making a proctoscopic examination. Digital examination will reveal polypi, tumors and ulcerations; by means of the bivalve or Sims' speculum the upper part of the rectum may be brought into view. Anorectal ulceration, or fissure in ano, is one of the most frequent of all rectal diseases. The treatment is by a clean incision through the base of the ulcer, dividing the outer half of the external sphincter, freshing the cutaneous edges and packing with iodoform or sterile gauze. The bowels should move on the third day.

Rectal and perirectal abscess, he said are always due to infection, and the treatment is by free incision and drainage. Poultices and ice bags are worse than useless. Irrigate with hydrogen dioxid and mercury bichlorid, 1 to 5,000; pack with gauze or use drainage tubes. Fistulæ are treated by incision or excision. Bowels should be opened on the third day and kept open afterward and the wound dressed once or twice daily.

The operative treatment of hemorrhoids is by ligature, clamp and cautery, excision and crushing. Dr. Hawley prefers the clamp and cautery in a large majority of cases; in hemorrhagic cases he prefers the ligature. In a few carefully selected cases of internal piles an injection of 10 or 15 per cent. solution of phenol (carbolic acid) in glycerin is sometimes effective, five to 10 minims being used. Gradual dilatation of the sphincters is necessary and the tumors returned into the rectum.

Benign as well as malignant growths of the rectum should be removed early. *X*-ray treatment may be of help in more advanced cases. In prolapse of the rectum the clamp and cautery or the actual cautery may be used. Excision of the mucous membrane and suturing the cut edges to the skin are sometimes successful.

DISCUSSION.

DR. J. M. GILE, Hanover, N. H., said that in hemorrhoids he is excising and sewing up with a clean suture line. He has abandoned the clamp and cautery and ligature on account of the pain that the patients experienced.

DR. J. B. WHEELER, Burlington, said he had had but one case of hemorrhage after the use of the clamp and cautery and never had a patient speak of severe pain.

DR. L. M. BINGHAM, Burlington, said that whenever, in a case of toxemia, no cause can be found, one should not neglect to examine the rectum.

Prevalence of Uterine Cancer in Vermont.

DR. CARL W. STROBELL, Rutland, said that from a canvass of the physicians of the state he finds that uterine cancer is primarily due to trauma and secondarily to infection. Eighty per cent. of all the cases start in the cervix. Leading authorities now believe that the disease is infectious. One physician reported 50 cases from a town of 1,000 inhabitants, and another 70 from a population of 1,500. Palliative treatment is of no avail. In 100 such operations in this series 83 recurred, more than a third of them in three months. Forty-five patients who have undergone total hysterectomy are still alive, running from three months to eight years since operation. He said that he calls his working formula for diagnosis the "cancer quartette": Hemorrhage, induration, discoloration and ulceration. Any of these are the signal for pathologic investigation. One should make a section of the cervix, under cocain, for the pathologist, and if the report is positive, a total hysterectomy should be done immediately.

DISCUSSION.

DR. J. B. WHEELER, Burlington, said that the family physician is the one to make the diagnosis and not wait for the surgeon to do so. Irregular sanguino-purulent discharge, in a woman over 40, is always suspicious. If there is also found induration, ulceration and discoloration the diagnosis is almost positive.

DR. L. M. BINGHAM, Burlington, would not make a positive diagnosis until he had had a microscopic examination made.

Some of the local symptoms that have been described may be cured by curetting and local treatment.

DR. B. H. STONE, Burlington, said that uterine scrapings alone are very difficult to pass a safe judgment on.

The Control of Surgical Infection of the Extremities.

DR. HERBERT L. BURRELL, Boston, strongly advised against the early incisions in infections of the extremities as is so frequently done. For over thirty years he has used the method of compression by means of long strips of oakum placed on the front and back of the limb and then tightly compressed with a wide bandage, extending from the extremities to the axilla or thigh. No pain or constriction is felt by patient. Pain and local inflammation will subside in twenty-four to forty-eight hours.

Some Difficult Diagnoses Between Medical and Surgical Conditions.

DR. J. M. GILE, Hanover, N. H., said that the causes, pathology and treatment between typhoid fever and appendicitis are very dissimilar, but the clinical symptoms in some cases are so near alike as to make a differential diagnosis difficult. We may have an ulceration near the appendix in typhoid with local pain or tenderness; or we may have a ruptured appendix, which has become walled in, without excessive pain or tenderness but with general toxic symptoms. In these cases always have the blood examined; the Widal test will settle the diagnosis.

Another condition in which mistakes are frequently made is that between typhoid and tubercular peritonitis, many cases of the latter disease being first treated as typhoid, but as convalescence becomes unduly prolonged the diagnosis of tubercular peritonitis is made. Such patients have an irregular fever, poor appetite, show gradual emaciation, and some tenderness and distension of bowels, especially around the tubes and appendix.

The third condition to which he called attention was that of differentiating between some of the gross lesions of the kidneys and intraperitoneal inflammations, particularly of the appendix. In pyelitis, or obstruction from stone, we may be mistaken. Adhesions in chronic appendicitis to the bladder or ureter may cause symptoms that relate almost entirely to the urinary system. Examination of the urine and catheterization of the ureters will help to clear up the diagnosis.

DISCUSSION.

DR. M. R. CRAIN, Rutland, said that some cases of tubercular peritonitis commenced with a typhoid condition. One can not always be sure of diagnosis except by blood count and bacterial examination; it may be necessary in some cases to make an exploratory incision.

DR. L. M. BINGHAM, Burlington, said he thought that the diagnosis between influenza and appendicitis was at times very difficult.

DR. J. M. GILE said that the younger men should be able to make a blood count, as it would be of great help to them in diagnosis. One can generally make a diagnosis between influenza or pneumonia and appendicitis by finding out the condition of organs above the diaphragm.

(To be continued.)

MEDICAL JURISPRUDENCE SOCIETY OF PHILADELPHIA.

Regular Meeting, Oct. 21, 1907.

DR. WILLIAM M. L. COPLIN in the Chair.

Expert Testimony from the Lawyer's Standpoint.

ADOLPH EICHHOLZ, ESQ., of the Philadelphia Bar, gave a brief analysis of the functions performed by the lawyer and by the expert in the administration of justice. It is admitted that human reason and ingenuity have not yet been able to devise any system through whose operation actual justice will be insured in every litigated case. In cases in which there are disputes as to facts, one side or the other may be untruthful in its allegations; or, it may be that the two sides have honest differences, which disagreements may be accounted for by differences in perception. Examples of rules intended to hold the scales of justice evenly balanced were cited. The method of trial was indicated in a general way and the position of the expert witness portrayed. The expert, though sworn as a witness, is in reality not a witness. In general, he does not testify as to facts, but is supposed to aid the jury in drawing its conclusions by giving his opinion on certain facts already testified to. In a measure, he stands in the same position as the judge who gives his opinion on the law, but with the vital difference that the court's conclusions on the law must be accepted, while the expert's conclusions are not binding. In the case of the expert scientist, there is not only the element of honesty and truthfulness which applies to every witness, but there are also to be considered questions as to whether or not the theory on which the witness bases his conclusions will stand the test of later scientific research, and whether or not the witness has used proper care in his investigations in the case under consideration. The danger of the expert becoming an advocate for the side employing him was referred to. Most of the remedies proposed for the improvement of the position of expert testimony were said to relate to what might be called scientific judges who are not employed by either side in the supposition that some degree of impartiality might be obtained. The suggestion is made, however, that since so much of so-called science is empirical it is doubtful whether or not an expert should be given such authority as to make his judgment theoretically or practically conclusive.

DISCUSSION.

WILLIAM W. SMITHERS, ESQ., emphasized the statement that the expert should not be considered a witness, describing his position rather as a supporter of the mentality of those engaged in the determination of the issue, an assistant merely, the force of which assistance is only secondary to the cause or issue at stake. He thinks that the tendency prevailed in many cases to magnify the position of the expert, as did the expert as a rule magnify the importance of his particular part of the trial.

DR. WILLIAM S. WADSWORTH strongly urged that the medical expert should have the same recognition and treatment as a legal judge, and that there should not be the effort made on the stand to discredit him. The work of the expert in observing facts and in drawing right conclusions was declared to be a necessity. The conditions, therefore, under which the courts worked should be improved.

DR. HENRY BEATES, JR., thought the interest in the question, on the part of the expert, centered around knowledge and honesty, and these two properties, he said, too often became the subjects of attack and perversion. The system also of utilizing expert testimony was regarded as often so defective that persons totally unfit are allowed to qualify as experts. He questions whether it is not a faulty method that permits expert testimony to be given by a physician who is interested in the case. Regarding the point made that an expert, though sworn as a witness, is not in reality a witness, but one whose function is merely to give an opinion, he believes the sooner such a rule is dispensed with, the better will it be, since opinions are influenced by environment. He believes that the system of utilizing expert testimony in the bringing of experts on each side who in a degree must become advocates of their respective sides, emasculates the entire system of its value.

JOHN H. CLARK, ESQ., believes that ultimately some method will be devised by which expert testimony will be more satisfactorily made use of. One difficulty in the subject is the kind of men usually found in the jury box.

PASCHAL H. COGGINS, ESQ., thought that experts are falsely regarded as impartial witnesses. He believes impartiality impossible in matters of opinion which are the result of special study and long training. The expert should occupy rather the position of counsel, and having reached a conclusion should be at liberty to support it by all his reason and knowledge, and to meet the opinions of the expert on the other side.

DR. HENRY LEFFMANN pointed out that there are two sides of the question, and that the expert is largely influenced by

the opinion of the individual he represents and the aspect in which he views the case. An illustrative case, and one in which it would seem that experts might have taken either side, was that concerning taxing of an electrical company on the ground that it was a manufacturing corporation. In this case, the question arose whether or not electricity is a manufactured product. He believes, on the whole, that the present system of expert testimony is the best, and that in the friction of the opposing experts the sparks of truth are ultimately brought out.

DR. WILFORD W. HAWKE referred to a commission in the city of St. Louis composed of physicians who had banded together to give expert testimony free of charge to the city. He cited a case in which two physicians appeared in court as experts, and yet who, when their qualifications were questioned, were obliged to say that they had never seen a case of insanity. He spoke of his experience in a recent murder trial in which the court would not allow him to qualify his statements, which in print might not convey his meaning, on the ground that he could not give a "medical lecture" in court. The term psychic epilepsy had been used, and although both sides agreed as to the mental status of the man, the jury paid no attention to the medical testimony and convicted the prisoner.

HAINES D. ALBRIGHT, ESQ., outlined the plan by which experts are obtained for the opposing sides, and thinks that with the evidence brought out in direct and cross-examination the system in the long run proved its value.

DR. JOHN B. ROBERTS deprecated the present tendency for the fee of the medical man to depend on the result of the case.

JOHN H. CLARK, ESQ., thought that a lawyer who takes a contingent fee, pays a fee to a man bringing him a case, or pays a physician for proving his case can not be an honest man and ought to be sent to jail.

MR. ALBRIGHT spoke in favor of a contingent fee under certain circumstances; for example, when the party is too poor to pay an attorney and the lawyer assumes the risk of not being paid at all.

MR. EICHHOLZ admitted that it is sometimes difficult for a professional man to express a professional opinion in other than technical words, but urged that the medical man in his expert testimony should remember that he is expected to explain certain things of which others are supposed to know nothing, and that so far as possible technical terms should be eliminated. An objection to the suggestion that the expert should occupy the position of counsel is the difficulty of having a deciding authority on the point at issue between the opposing experts. While the present system of expert testimony may not be ideal, Mr. Eichholz believes it the best that so far it has been possible to devise. It is a means of getting at the truth and of deciding disputes. With some method of raising professional standards there would come the possibility of raising the standard of the expert testimony.

IDAHO STATE MEDICAL ASSOCIATION.

Fifteenth Annual Meeting, held at Boise, Oct. 3-4, 1907.

(*Continued from page 1799.*)

The Diagnostic Value of the Cystoscope.

This paper was read by DR. G. SHEARMAN PETERKIN, Seattle, Wash., who spoke of the intelligent use and application of the cystoscope in diagnosis of diseases of the urinary organs and prostate, and placed particular emphasis on the detailed information which could be obtained in no other manner. If used carefully, the cystoscope could do the patient no harm, and its use need not cause any particular pain.

DISCUSSION.

DR. JACOB PRINZING said that he could remember but three cases in his practice in which he thought that cystoscopy was indicated. In his opinion the general practitioner has neither the time nor the facilities and training to use this means of diagnosis, and no one but a specialist should attempt its use.

DR. C. N. SUTTNER, Walla Walla, considers genitourinary surgery one of the most important specialties and thinks that the general practitioner has no business trying to use the cystoscope, though he realizes its importance in the diagnosis of a number of conditions found in the urinary organs.

DR. ROBERT L. GILLESPIE, Portland, Ore., has found the cystoscope of great use in diagnosing certain conditions of the spinal cord.

DR. H. D. NILES asked the author if tuberculosis of the bladder is found on cystoscopic examination, where and how would he locate the primary lesion.

DR. F. M. POTTENGER, Los Angeles, emphasized the importance of negative findings in tuberculosis of bladder or of kidney, especially in determining whether or not both kidneys are affected; and if only one, which one. Tuberculosis is prone to remain latent for a long time; the cystoscope may aid in locating it or discovering it.

DR. E. B. MCDANIEL spoke of the advantages and importance of the cystoscope to the surgeon.

DR. E. F. ROOT, Salt Lake City, called attention to the fact that the cystoscope is not only a means of making diagnosis, but is an instrument of precision, and in the hands of the right man, is also an efficient means of applying treatment. It should not be forgotten, however, that there is danger in using it and that there are other methods of arriving at a diagnosis and treating lesions of the urinary organs.

DR. L. P. MCCALLA, Boise, called attention to the value of catheterization of the ureters when operating in a case of carcinoma of uterus.

DR. G. S. PETERKIN, Seattle, said that the primary lesion in tuberculosis of the urinary track, is usually found in one kidney, from which it extends downward to ureter and bladder. If the second kidney is involved, it is usually late, and from extension from the bladder. The cystoscope with catheterization of the ureters is of inestimable value in determining which kidney is affected, and should always be used prior to the removal of a kidney for any cause, to guard against removing the only kidney the patient may have. In regard to the danger of using the cystoscope, he saw no harm in its use, if used carefully and intelligently. Neither should there be any harm in catheterizing the ureters. A stone searcher or sound is far more harmful. An anesthetic is not necessary.

Certain Phases of Immunity, and Special Vaccine Therapy.

DR. LUDVIG HEKTOEN, Chicago, discussed the present state of our knowledge of various antibodies with special reference to the mechanism of phagocytosis and to the opsonins. He emphasized the fact that while the discovery of opsonins and the further demonstration that various bacteria like streptococci, pneumococci, anthrax bacilli, etc., are destroyed in the test tube by leucocytes in the presence of opsonic serum, undoubtedly throws light on the mechanism of healing in many infections, yet there is still much that is obscure, particularly as regards the neutralization of the toxic substances produced by the bacteria in question and also as regards the resistance offered by virulent bacteria to phagocytosis. He referred, by way of illustration, to the fact that pneumococci freshly isolated from the blood in pneumonia have been found by Rosenow invariably to be virulent to rabbits and to resist opsonification and phagocytosis; consequently the manner of the destruction of pneumococci within the body still presents complex problems. Undoubtedly, a step forward has been made by Rosenow's demonstration that virulent pneumococci resist phagocytosis by virtue of a substance—"virulin"—which can be extracted by means of salt solution and subjected to experimental study. As regards the value of the opsonic index in the treatment of infections by therapeutic inoculations of dead bacteria, he stated that the difficulties and the sources of error in the determination of the index seem to some to be so great that they question the reliability of the methods. The striking uniformity of certain outstanding results obtained by different observers and the general harmony of these results with what one would expect on clinical and other grounds would seem to indicate, however, that, in competent hands, the method is, after all, fairly trustworthy. On the other hand, Dr. Hektoen insisted that opsonins constitute only one of the bodies or groups of bodies produced in the reactions of immunity and

that consequently it may be well to ask whether or not they constitute a reliable criterion of the resistance offered under all circumstances. Turning to the consideration of the treatment of tuberculosis with tuberculins, it was pointed out that while Koch did not look on his original tuberculin as an immunizing agent, the essential action of all tuberculins is now ascribed to the stimulation of the machinery of immunization and the protection of antibodies. At present there are two distinct methods of administering tuberculin which Trudeau designates as the laboratory method and the clinical method. The laboratory method is based essentially on the opsonic index and in this case the dose of tuberculin remains minimal throughout. This method has met with the greatest apparent success in chronic local tuberculosis elsewhere than the lungs; its value in pulmonary tuberculosis is slight if any. The clinical method, which has developed more gradually during the past fifteen years or so, and almost exclusively in connection with pulmonary tuberculosis, is controlled solely by the clinical course. The original belief that severe reactions are necessary in tuberculin treatment has been abandoned and great care is now recommended not to give larger doses than the patient can tolerate without clinical reactions. The main difference between the two methods is that the laboratory or opsonic method takes no special count of the production of immunity to tuberculin, whereas the clinical method aims and tends to produce immunity to tuberculin. It is known that animals can be immunized to tuberculin and that tuberculous patients may be made insusceptible to 10,000 times the amount of tuberculin that at first would cause clinical disturbances. The coincident general improvement recorded in many cases so treated shows that progressive increase of dose need not be harmful whatever the state of the tuberculo-opsonic index in the meantime may have been. Trudeau's figures showing the lesser mortality of patients with pulmonary tuberculosis treated with tuberculin than of those not treated were cited as evidence in favor of the virtue of the treatment. Emphasis was laid on the necessity of weighing the results of inoculation treatment of infectious diseases with a keen appreciation of the obstacles in the way of final judgment. At present correct final estimation of the real value of therapeutic inoculation to bacteria is probably not possible, because as yet mostly isolated cases have been reported, often it is true of marvelous cures, but, as the diseases concerned are largely spontaneously curable, a large body of reliable statistics and much personal experience by critical and judicious observers must accumulate before final conclusions may be drawn. In the meantime, the physician and surgeon should follow the developments in connection with bacterial inoculation, and the actual application of the treatment, especially, perhaps, in other diseases than tuberculosis, should be entrusted to those properly trained in the special laboratory methods. Dr. Hektoen illustrated a portion of his address by lantern slides, showing the effect of inoculations in animals and on various types of infectious diseases.*

DISCUSSION ON PAPERS OF DRS. KELLOGG AND HEKTOEN.

DR. F. M. POTTENGER, Monrovia, Cal., said that he had been using tuberculin in the treatment of tuberculosis for twelve years, and naturally is very much interested in the opsonic theory. Fundamentally and theoretically the opsonic theory is correct, and he thinks it will stand the test of time and be of great help in the treatment of tuberculosis; he also thinks that it will render the prognosis no worse in laryngeal cases than when the lungs only are involved. He has been using larger doses than recommended by Wright and Douglas. He has seen fistulas and tuberculous glands disappear under specific treatment. The treatment of tuberculosis is that of the individual. Tuberculosis can not be treated mechanically with tuberculin. When the kidney is tuberculous the disease is nearly always bovine in type, and it is well to remember that human vaccines seem to irritate the bovine type of disease, and the bovine vaccines will likewise irritate the human type of disease—this is important to keep in mind.

DR. E. A. PIERCE, Portland, Ore., said that while he treats only pulmonary cases and has made little application of serum therapy, he is familiar with the work of Kellogg and others in glandular and bone cases. In his laryngeal cases he has seen marked results follow the discarding of all local measures except the hot saline gargle. He believes, however, that there is a distinct field for vaccine therapy and intends using it extensively in the future.

DR. F. H. BRANDT, Boise, thinks that Ehrlich's side-chain theory has assisted Wright very much in evolving his recent opsonic theories. He mentioned the practical use of the opsonic index and vaccines as valuable adjuncts to other methods of diagnosing genitourinary lesions.

DR. H. D. NILES, Salt Lake City, said that we have reached a point where we can not reject this theory. The cause is worthy of interest and study. Every physician should be in touch with a hospital equipped to carry out the work.

DR. J. BLOODGOOD, Baltimore, thinks that we ought to encourage men who are willing to confine themselves to this work, for serum therapy has reached a very important stage. There is a distinct application for vaccine therapy in surgery. A large amount of material has accumulated in which patients supposed to be cured are coming back in five, ten and fifteen years with return of tuberculosis in other locations. All tuberculous patients operated on should receive tuberculin treatment to see if it will not prevent these returns. In other infections surgery has reached its limit and we need some other means of treatment. Bier's treatment should be used more than it is. Dr. Bloodgood considers this a great addition to existing methods in treatment of acute and chronic infections.

DR. KELLOGG said that he has tried to make an everyday practical test of this opsonic theory, and could recall a number of instances in which he felt confident that the treatment has been efficacious.

DR. HEKTOEN said that the treatment is yet really in a mere beginning stage, and the efforts of many enthusiastic workers are necessary. It will take time, many years perhaps, to perfect its technic and therapeutic application.

(To be continued.)

* See abstract on page 1704.

Medicolegal

Right to Recover for Emergency Services Rendered Unconscious Person—Lack of Benefit Immaterial—Considering Value of Estate and to Whom Left.

The Supreme Court of Arkansas had, in the appeal of Cotnam vs. Wisdom and another, an action brought by the latter parties to recover from an administrator for services rendered by them as surgeons to said administrator's intestate, named Harrison. The jury was instructed: "1. If you find from the evidence that plaintiffs rendered professional services as physicians and surgeons to the deceased, A. M. Harrison, in a sudden emergency following the deceased's injury in a street car wreck, in an endeavor to save his life, then you are instructed that plaintiffs are entitled to recover from the estate of the said A. M. Harrison such sum as you may find from the evidence is a reasonable compensation for the services rendered. 2 The character and importance of the operation, the responsibility resting on the surgeon performing the operation, his experience and professional training, and ability to pay of the person operated on, are elements to be considered by you in determining what is a reasonable charge for the services performed by plaintiffs in the particular case."

The court says the first question was as to the correctness of the first instruction. The defendant was right in saying that the recovery must be sustained by a contract by implication of law, but was not right in saying that it was a new rule of law, for such contracts are almost as old as the English system of jurisprudence. They are usually called "implied contracts." More properly they should be called "quasi contracts" or "constructive contracts."

One phase in the law of implied contracts was considered in the case of Lewis vs. Lewis, 75 Ark. 191. In its practical application it sustains recovery for physicians and nurses who render services for infants, insane persons, and drunkards. And services rendered by physicians to persons unconscious or helpless by reason of injury or sickness are in the same

situation as those rendered to persons incapable of contracting, such as the classes above described. Raoul vs. Neuman, 59 Ga. 408; Meyer vs. K. of P., 178 N. Y. 63. The court was therefore right in giving the instruction in question.

The defendant sought to require the plaintiffs to prove, in addition to the value of the services, the benefit if any, derived by the deceased from the operation, and alleged error in the court refusing to so instruct the jury. The court was right in refusing to place this burden on the physicians. The same question was considered in Ladd vs. Witte, 116 Wis. 35, where the court said: "That is not at all the test. So that a surgical operation be conceived and performed with due skill and care, the price to be paid therefor does not depend on the result. The event so generally lies with the forces of nature that all intelligent men know and understand that the surgeon is not responsible therefor. In absence of express agreement, the surgeon, who brings to such a service due skill and care, earns the reasonable and customary price therefor, whether the outcome be beneficial to the patient or the reverse."

The trial court permitted to go to the jury the fact that Mr. Harrison was a bachelor, and that his estate would go to his collateral relatives, and also permitted proof to be made of the value of the estate, which amounted to about $18,500, including $10,000 from accident and life insurance policies. There is a conflict in the authorities as to whether it is proper to prove the value of the estate of a person for whom medical services were rendered, or the financial condition of the person receiving such services. Whatever may be the true principle governing this matter in contracts, this court is of opinion that the financial condition of a patient cannot be considered where there is no contract and recovery is sustained on a legal fiction which raises a contract in order to afford a remedy which the justice of the case requires.

While the law may admit such evidence as throwing light on the contract and indicating what was really in contemplation when it was made, yet a different question is presented when there is no contract to be ascertained or construed, but a mere fiction of law creating a contract where none existed in order that there might be a remedy for a right. This fiction merely requires a reasonable compensation for the services rendered. The services are the same be the patient prince or pauper, and for them the surgeon is entitled to fair compensation for his time, service, and skill. It was therefore error to admit this evidence, and to instruct the jury in the second instruction that in determining what was a reasonable charge they could consider the "ability to pay of the person operated on."

It was improper to let it go to the jury that Mr. Harrison was a bachelor and that his estate was left to nieces and nephews. This was relevant to no issue in the case, and its effect might well have been prejudicial.

Justices Battle and Wood concur in sustaining the recovery, and in holding that it was error to permit the jury to consider the fact that his estate would go to collateral heirs; but they do not concur in holding that it was error to admit evidence of the value of the estate, and instructing that it might be considered in fixing the charge.

Constitutionality of Practice Act Requiring Diploma, Etc.

The Supreme Court of Missouri, in the case of State, on relation of Crandall, vs. McIntosh and others, State Board of Dental Examiners, finds no legal fault with the requirement of a diploma or of an examination by the board. It finds no legal fault with the legislative theory that it was largely impracticable for an applicant to acquire in the first instance suitable skill in technic and adequate professional knowledge by himself or in an office. The line has to be drawn somewhere, and, so long as it was not chalked out whimsically and arbitrarily at an unreasonable place, it was well enough—the legislature having plenary power.

Measurably, the same with other reasons underlie and support the alternative requirement of a certificate from a dental board of another state. It is apparent that no scheme should overlook the fact that Missouri is but one of many states in this union. Some comity must be provided for, and no legislation could be enacted so perfect as to avoid the hardships of a hard case such as within the imagination or by pathesis of ingenious counsel.

Finally, it was argued, in effect that the limitations and classifications imposed by the statute were not germane to the subject-matter of dentistry. That to say a dentist shall not be examined or lincensed who holds no college diploma or no certificate from another dental board is as unreasonable as to put up the bars to one who had gray eyes or red hair, or who stood, say, 5 feet 8 inches in his socks—all restrictions of that ilk, it was argued, are whimsical, unreasonable, arbitrary, and hence plainly outside the legitimate province of legislative control and void. But is a statute calling for a certificate from a reputable dental college (or other like voucher or safeguard) attesting the bearer to be proficient in the learning and technic of his profession, obnoxious to the criticism that such requirement is not germane? The court thinks not.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

November 16.

1 *Relief of Nutritional Disorders by Developing the Abdominal Supports. J. M. Taylor, Philadelphia.
2 *Modern Methods in Medical Treatment of Gastric Diseases. A. Rose, New York.
3 Prostatic Hypertrophy and Its Treatment. J. H. Gleason, Manchester, N. H.
4 Protection of Roentgenologists. C. L. Leonard, Philadelphia.
5 *Chronic Amebic Dysentery, a Surgical Disease. J. M. Holt, Astoria, Ore.
6 Arterial Thrombosis and Gangrene Following Typhoid. J. H. Henry, Philadelphia.
7 *Acute Idiopathic Pulmonary Edema. S. W. Newmayer, Philadelphia.
8 Occurence of Indican, Albumin and Casts in the Urine. J. R. Williams, Rochester, N. Y.
9 Microscopic Traumatic Gangrene. J. W. Beveridge, New York.
10 Improved Rapid Method of Imbedding Histopathologic Specimens in Paraffin. A. M. Pond, Dubuque, Iowa.
11 *New Treatment of Diabetes Mellitus. S. G. Soules, Quebec.
12 Case of Heroinism. C. M. Fauntleroy, Charlottesville, Va.

1. **Abdominal Supports and Nutritional Disorders.**—Taylor considers failure of the supporting structures of the abdomen the most important single factor in many baffling disorders of metabolism. Many forms of gastrointestinal disease, especially putrefactions, gouty phenomena, over and under nutrition, are caused in part, if not wholly, by displacements of the abdominal organs. He emphasizes the importance of improving the power and mobility in the supporting structures of the abdomen, in regard to the caliber of the organs and the regulated action of the blood vessels.

2. **Medical Treatment of Gastric Diseases.**—Rose explains how the support of the relaxed abdominal muscles improves the position of the prolapsed stomach, and how this support affects gastric secretion. He cites Pawlow's experiments in support of his contentions and shows two illustrations representing the appearance of the dilated stomach under translumination with fluorescein before and after the application of his belt.

5. **Amebic Dysentery.**—Holt advocates surgical treatment in all cases of amebic dysentery when amebæ persist in the stools after one year's patient trial of irrigation through the rectum and the amebic ulceration is higher up in the intestine than the sigmoid flexure. The preferable operation is appendicostomy.

7. **Acute Pulmonary Edema.**—Newmayer reports three cases of this condition and considers that the theory of causation which seems to explain all these three cases is that overexertion is the cause of an immediate loss of nerve power in the intracardiac ganglia or in the vagus, an increased and uncontrolled working force of the heart. This gives an enormous pulmonary hypertension and sudden enfeeblement of the right ventricle due to this hypertension. This back pressure in the lungs causes a serosanguinous transudation into both lungs. This explains the suddenness of the attack, the alarming dyspnea and cyanosis, and the discharge of frothy serum and blood; the sudden filling of the air vesicles and tissues with this fluid causes bilateral subcrepitant and bubbling râles.

11. **Chimaphila in Diabetes Mellitus.**—Soules reports that in a case of diabetes under his observation and treatment for eight year two drams of the fluid extract of chimaphila at meal time in a glass of milk caused the sugar, which was abundant, often reaching 10 per cent., to disappear from the urine in less than a month. As soon as the sugar disappears he recommends the addition of arsenic in small and gradually increasing doses without decreasing the chimaphila. A diet should, of course, be prescribed. The urine becomes dark a few days after the commencement of the treatment.

Medical Record, New York.

November 16.

13 *Diseases of the Gastrointestinal Tract on the Borderland Between Surgery and Internal Medicine. J. C. Hemmeter, Baltimore.
14 Skin Grafting Without Anesthesia. J. T. Rose, Brooklyn.
15 Relationship of Trauma to Insanity. A. C. Brush, Brooklyn.
16 Cryptorchism Complicating Imbecility. B. S. Talmey, New York.
17 Radiograph of Mummified Foot. E. H. Elsing, New York.

13. **Diseases of the Gastrointestinal Tract.**—Hemmeter makes a study of borderland cases between surgery and internal medicine in relation to the gastrointestinal tract the subject of a plea for a better understanding between the internist and the surgeon. He points out that from the former we expect the most refined development of the methods of physical examination, a more perfect control of the chemical and microscopic methods of examination, and a deeper knowledge of pathophysiologic processes, as well as an exhaustive familiarity with the signs and symptoms of disease. From the latter we look for an exhaustive knowledge of regional anatomy, of the many mechanical and physical appliances to aid in the recovery of objective lesions and a masterly control of technic with all its collateral, chemical and bacteriologic details. There should be neither habitual prejudice to operation and invariable expectancy and conservatism from the internist, nor habitual advocacy of operation and impatience with all conservatism by the surgeon; cooperation between the two is needed. Hemmeter then proceeds to consider the early diagnosis of carcinoma of the intestines in detail. He finds that the prospects for early diagnosis of intestinal neoplasms are not favorable at present. The time for early diagnosis is beyond the limit of recognition of patient and diagnostician. It is, therefore, of the utmost importance that researches of a biologic and pathologic nature aiming toward a serum diagnosis of malignant tumors should receive the encouragement of endowed institutions for medical research. He then enters on a lengthy consideration of tuberculous peritonitis, the evidence in which leads him to the conclusion that tuberculous peritonitis may be permanently recovered from under conservative or expectant treatment, although at one time laparotomy was considered the only chance the patient had of recovery. In regard to the differential diagnosis of tuberculous peritonitis, there are three tests that are almost specific: 1, intraperitoneal injections into guinea-pigs of some of the peritoneal exudates; 2, injections of tuberculin; 3, the diazo reaction of Ehrlich. As to what constitutes a cure, he considers that we should at least require that a patient shall have been observed by some reliable physician and reported well one year after the laparotomy or after the conservative course of treatment, before we feel justified in classing such a case among the cured. He would formulate the following conditions in which a tuberculous peritonitis should not be operated on: 1. A diffuse tuberculous peritonitis with high fever is not a proper condition for operation. Such patients should be given a chance for recovery under conservative treatment. 2. In diffuse or localized forms of tuberculous peritonitis, with the objective signs of extensive irritation of the peritoneum (irritation meaning sensitiveness, not necessarily inflammation), and with symptoms of intoxication of the entire body, the operation should be postponed. 3. A general systemic infection and pronounced weakness should contraindicate the operation. 4. Extensive tuberculosis of other organs (lungs, larynx, liver, pleuræ) is a contraindication for operation. His further conclusions, drawn from his own experience, are that the duration of the cure after the time of the first medical treatment was much longer in those patients who were treated conservatively than in those who were treated by operation, and that at least as many patients with tuberculous peritonitis recover under the expectant or conservative treatment as after an operation. Hemmeter considers that in view of the discouraging results of secondary operations in peptic ulcers of the duodenum and jejunum following gastroenterostomy for benign stomach diseases (stenoses) a longer concession should be made to purely internal treatment. He expresses a hope that there may be an effort on the part of surgeons to convince themselves by personal investigation of the power for effecting a cure contained in non-surgical methods of treatment.

Boston Medical and Surgical Journal.

November 14.

18 *Muscle and Tendon Transference. E. H. Bradford and R. Soutter, Boston.
19 *Seashore Treatment of Tuberculous Arthritis of Children. A. H. Miller, Providence, R. I.
20 Two Cases of Hemorrhage Following Removal of Tonsils. E. A. Crockett, Boston.
21 Congenital Dexiocardia. W. F. Doolittle, Cleveland.
22 Abdominal Lesion Simulating Cancer. B. H. Cates, Knoxville, Tenn.

18. **Muscle and Tendon Transference.**—Bradford and Soutter base their paper on analysis of 35 cases with periosteal insertion and silk strand elongation, and record their appreciation of the great value of extending tendons by the use of silk strand. The cases comprise tendon transfer with silk strand elongation for deformities of the foot, tendinous fixation of the ankle joint for front foot drop, tendon transference from the hamstrings to the os calcis by elongated silk strand, and transference in the foot and knee and in the shoulder muscles. They conclude that tendon transference is a procedure which offers with a minimum of risk a chance of great benefit. A comparative study of their previously reported cases in which simple tendon transference without periosteal insertion and shortening of the relaxed tendons, and of the results gained by the careful employment of the silk strand method of elongation of efficient muscles with periosteal insertion demonstrates the superiority of this method. The strictest aseptic and antiseptic precautions are demanded. The amount of benefit finally gained is in favorable cases so great as to justify an expectation of equal benefit in all cases.

19. **Tuberculous Arthritis of Children.**—Miller describes the methods of treatment in tuberculous arthritis at the Rhode Island Hospital, and considers the following principles to be demonstrated as true: (1) Fresh air and an abundance of food, combined with sea bathing and freedom from unnecessary restraint, bring about a continuous uniform and rapid improvement in all cases of tuberculous arthritis of children: (a) Orthopedic restraint should be applied only to the joint affected. Otherwise activity should be encouraged. (b) The beneficial effect of sea bathing more than compensates for any theoretical injury done by leaving off orthopedic apparatus for a short time daily. (2) Tuberculous sinuses which are bathed in sea water daily and which have no other treatment save a protective dressing improve with surprising rapidity.

The Lancet-Clinic, Cincinnati.

November 16.

23 The Age in Which We Live. C. Pope, Louisville, Ky.
24 What You Can Not Do with Purgatives. E. Walker, Evansville, Ind.
25 *Menopause; Every Day Lessons from Every Day Cases. C. A. L. Reed, Cincinnati.
26 Acute Colds. W. L. Welsh, Kearney, Neb.
27 Croup. J. Burke, Manitowoc, Wis.

25. **Menopause.**—Reed emphasizes the following points: The menopause means, in health, only the decline and disappearance of the menstrual function—nothing more, nothing less. Any deviation from this rule, any hemorrhagic tendency and capricious recurrence of the flow after it has once ceased, is suspicious and calls for careful examination. In the majority of cases, possibly in nine out of ten, it means cancer. In the remaining cases it means a fibroid or a fungous endometritis or other neoplastic change. In all cases in which the condition is not obvious, microscopic investigation should be made.

California State Journal of Medicine, San Francisco.

October.

28 Infant Feeding. R. L. Porter, San Francisco.
29 *Surgical Treatment of Gastroptosis. J. H. Barbat, San Francisco.

30 Report of Two Cases of Epidural Abscess of Otitic Origin. H. Hastings, Los Angeles.
31 Mechanical Treatment of Hip-Joint Disease. J. Kurtz, Los Angeles.
32 Statistics, Etiology and Pathology of Hip-Joint Disease. E. H. Wiley, Los Angeles.
33 Prognosis of Diabetes. E. W. Twitchell, Sacramento.
34 Surgery of Diabetics. O. O. Witherbee, Los Angeles.
35 *Otitis Media in Children, New Practical Point in Diagnosis; Bacterial Investigations. S. Blum, San Francisco.

29. **Gastroptosis.**—Barbat considers that the operation best suited for any particular case must depend on the pathologic conditions. In simple cases of gastroptosis in which the lower border of the stomach does not descend below the level of the umbilicus and in which there is no kinking of the pylorus or duodenum, operation is rarely indicated. Gastropexy is the operation of choice in every case in which there is kinking of the pylorus or duodenum. Beyea's method is satisfactory. Gastroplication may be necessary in extreme dilatation. When operating now, Barbat first settles whether or not an additional opening into the stomach is required by pushing the finger with a fold of the stomach over it through the pyloric orifice. If it admits the tip of the index finger there is no necessity for having another opening and gastropexy, not gastroenterostomy or gastroduodenostomy, is the operation of choice. Usually Beyea's operation is chosen, but in a recent case, owing to the thinness and porosity of the gastrohepatic omentum, he substituted six interrupted sutures of celluloid linen, approximating the lesser curvature of the stomach with the upper border of the lesser omentum at its junction with the liver, taking care to avoid including blood vessels in the sutures. The stomach stitches included the serosa and muscularis, and were placed just below the attachment of the lesser omentum. When the stitches were tied the entire gastrohepatic omentum was puckered up and the lesser curvature of the stomach was in contact with the transverse fissure of the liver. Barbat has done a fixation of the liver in five cases for prolapse. He used sutures of heavy catgut through the liver substance and rubbed the opposing surfaces of the liver and diaphragm until they bled. In regard to nephropexy, he expresses his belief that Longyear's operation of nephrocolopexy undoubtedly is the best operation that has been so far devised.

35. **Otitis Media in Children.**—Blum describes a diagnostic sign which he has been unable to find mentioned in the literature. On placing the finger behind the angle of the jaw in the groove formed by the inferior maxillary bone and the anterior border of the sternomastoid of the affected side and pressing upward and inward toward the auditory canal, decided evidence of pain was elicited. He says this symptom is constant in otitis media, and is of special diagnostic value in infants, though it does not alone suffice for a positive diagnosis.

New York State Journal of Medicine, New York.

October.

36 *Chloroma, with Reference to Ocular Symptoms. C. S. Merrill and A. J. Bedell, Albany.
37 *New Operation for Radical Cure of Femoral Hernia. A. V. Moschcowitz, New York.
38 *Treatment of Diffuse Septic Peritonitis Following Appendicitis: Report of One Hundred and Forty-five Cases Treated by Elevated Head and Trunk Position. R. S. Fowler, Brooklyn.
40 *Physiologic Therapy of Sanitarium Treatments. B. O. Kinnear, Clifton Springs.
41 Fitting of Glasses. A. E. Davis, New York.
42 *Visions of a Hysteric. F. E. Fronczak, Buffalo.
43 Chronic Nonsuppurative Middle-Ear Diseases. N. D. McDowell, Rochester.
44 Ophthalmo-Tuberculin Diagnostic Test. E. R. Baldwin, Saranac Lake.

36. **Chloroma.**—Merrill and Bedell report a case of this rare disease, of which apparently only 44 cases are to be found in the literature, the present case being the fourth that was diagnosed during life. They group the characteristics and analyze the reported cases.

37. This article was abstracted in THE JOURNAL, March 7, 1907, p. 899.

38. Abstracted in THE JOURNAL, March 2, 1907, p. 823.

40. Abstracted in THE JOURNAL, Feb. 9, 1907, p. 536.

42. **The Visions of a Hysteric.**—Fronczak describes the exposure of the Buffalo mystic, the subject of considerable sensation and newspaper exploitation in May, 1906.

Philippine Journal of Science, Manila.

August.

45 *Necator Americanus in Natives of the Philippines. C. L. Cole, Manila.
46 *Recent Trend of Immunity Research. H. T. Marshall, Manila.
47 *Infant Feeding and Its Influence on Infant Mortality in the Philippines. W. E. Musgrave and G. F. Richmond, Manila.
48 *Gangosa in the Philippines. W. E. Musgrave and H. T. Marshall, Manila.

45. **Uncinaria.**—Cole states that *Necator americanus* (*Uncinaria americana*) is a common parasite in the Phillipines and causes a great loss of time to the government from the illness of enlisted men. He thinks that efforts at its eradication would be well rewarded.

46. **Immunity Research.**—Marshall deals with two problems of recent immunity research: Deflection of complement and the aggressin hypothesis. The extensive review of the literature can not well be abstracted, but the author's conclusion is that the lessons to be learned from the aggressin work are not new; the same lessons are being taught by the workers on opsonins and endotoxins, and they are: 1. There are great differences in activity between otherwise apparently identical strains of a species of bacterium. 2. Bacteria undergo some important alteration when transferred from a saprophytic to a parasitic existence. 3. There are marked differences in the reactions occurring in various species of bacteria after they are inoculated into animals. 4. The phenomena of agglutination, bacteriolysis or phagocytosis do not separately afford an explanation of anti-infectious immunity. 5. The products of bacterial metabolism are numerous and differ among themselves, and the products differ according to the pathogenicity of the bacterial strain.

47. **Infant Feeding.**—The problem of infant feeding in the Philippines is greatly complicated by the scarcity and high cost of fresh cow's milk. For this reason the current books on infant feeding become practically useless. Musgrave and Richmond discuss the substitutes available and give directions for using them based on analyses made in the government laboratories.

48. **Gangosa.**—Musgrave and Marshall give the details of the first case of this rare disease reported from the Philippines. The reports of autopsy and of a careful histologic examination are given. In certain respects the disease resembles an unchecked Vincent's angina or noma. Noma is excluded by the protracted course and the absence of general symptoms. The spirocheta of Vincent could not be demonstrated in the lesions. Antisyphilitic treatment was without effect. The authors think that the weight of the evidence is in favor of the view that gangosa is a disease independent of syphilis, but they do not regard this as a definitely established fact. The studies of Fordyce indicated the absence of tuberculosis, and although in the present case tuberculosis occurred, Musgrave and Marshall regard it as a secondary complication.

The Journal of Medical Research, Boston.

October.

49 *Absorption from the Peritoneal Cavity. B. H. Buxton, and M. Tracy, New York.
50 *Calcification and Ossification. H. G. Wells and R. L. Benson, Chicago.
51 *Experimental Bone Formation in Arteries. W. H. Harvey, Cambridge, Eng.
52* Etiology and Pathogenesis of Acute Pancreatitis. H. U. Williams and F. C. Busch, Buffalo, N. Y.
53 *Reactivation of Heated Normal Human Opsonic Serum with Fresh Diluted serum. D. M. Cowie and W. S. Chapin, Ann Arbor, Mich.
54 *Opsonic Index as Guide to Regulate Use of Vaccines in Treatment of Disease. W. H. Park and H. M. Biggs, New York.
55 Preliminary Report of Predominating Micro-organisms in Feces and Sewage as an Index of Pollution in Drinking Water. D. Rivas, Philadelphia.
56 *Experiments in Favor of the Amboceptor Complement Structure of the Opsonin of Normal Human Serum for the Staphylococcus Albus. D. M. Cowie and W. S. Chapin, Ann Arbor, Mich.
57 Interpretation of the Positive Venous pulse. A. W. Hewlett, San Francisco.

49. **Absorption from the Peritoneal Cavity.**—Buxton and Tracy, in their studies on absorption from the peritoneal cavity find that nuclein injected into the peritoneal cavity of

a rabbit twenty-four hours before the inoculation of bacteria, reduces the immediate general invasion markedly. This reduction they hold to be due to local inflammatory changes in the peritoneum, with blocking of the lymphatic channels.

50. **Calcification and Ossification.**—Wells' and Benson's experiments indicate that fetal epiphyseal cartilage has a marked power to take up calcium or its salts from the fluids of the body, even after its vitality has been destroyed by heat. Other cartilages have much less power to take up calcium. Analytically, it has not been possible to show any striking chemical differences between cartilages that normally ossify and those that do not.

51. **Experimental Bone Formation in Arteries.**—Harvey found that bone may develop in the arterial wall of rabbits after experimental irritation of the corresponding part of the arteries with 3 per cent. solution of silver nitrate or 2 per cent. solution of cupric sulphate. The new bone was found in areas previously necrotic and the seat of marked calcareous degeneration.

52. **Etiology and Pathogenesis of Acute Pancreatitis.**—Williams and Busch furnish anatomic and experimental evidence to the effect that in some cases of acute pancreatitis the process may be caused by the passing of duodenal contents through the diverticulum of Vater, when this has been previously dilated by the passage of gallstones.

53 and 56. **Opsonins of Normal Human Serum.**—Cowie and Chapin find that if normal human serum in a dilution of 1/15 is added to serum previously heated between 55 and 60 C., there results a much greater phagocytosis than the sum of the phagocytosis of the sera taken separately. Furthermore, they find that staphylococci, after treatment with heated serum and washing, are much more readily opsonified by a dilute normal serum than the same bacteria untreated, and that a heated serum can not be reactivated if previously treated with a sufficient number of staphylococci. These facts they interpret to mean that in normal serum opsonins have a double structure, two separate bodies taking part in the action just as in the case of lysins.

54. **Opsonic Index as Guide to Treatment of Disease.**—Park and Biggs find that the ordinary technic for the determination of the opsonic power of the blood is so liable to various sources of error as to be of little or no value as a guide to regulate the use of killed bacteria in the treatment of disease. They report that in staphylococcus infections, killed bacteria gave apparent beneficial results. In infections of the sinuses of the head, the use of killed bacteria gave such undecided results that operation and usual treatment were instituted. Apparent benefit was obtained in acne.

Illinois Medical Journal, Springfield.

October.

58 Goiter: Surgical Treatment Based on Four Hundred and Seventy five Cases. C. H. Mayo, Rochester, Minn.
59 Indications for Technic and Results in Surgery of the Peripheral Nerve. J. B. Murphy, Chicago.
60 Three Unusual Fatal Cases in Gall-Bladder Surgery. J. E. Allaben, Rockford.
61 *Postoperative Gall-Bladder and Gall-Duct Fistulas. M. R. Baker, Chicago.
62 *Malaria as a Surgical Complication. T. M. Aderhold, Zeigler.
63 *Operative Interference in Acute Mastoiditis. L. R. Ryan, Galesburg.
64 *Otitic Brain Abscess. F. K. Sidley, Peoria.
65 Mental Element in Healing Methods. A. F. Bucknam, Warren.

61, 63 and 64. Abstracted in THE JOURNAL, June 23, 1907, p. 2151.

62. Abstracted in THE JOURNAL, June 22, 1907, p. 2150.

Journal of Kansas Medical Society, Columbus.

October.

66 What is the Matter with Kansas—Vital Statistics? C. L. Wilbur, Washington, D. C.
67 *Use and Abuse of Saline Solutions. F. A. Carmichael, Goodland.
68 *Treatment of Peri-anal and Perirectal Abscesses. E. H. Thrailkill, Kansas City, Mo.
69 Cough. W. F. Sawhill, Concordia.
70 Nail Injuries to the Eye. J. W. May, Kansas City, Kan.
71 Morphin and Cactin Compound. V. E. Lawrence, Ottawa.

67. **Saline Solutions.**—Carmichael considers that we have no other single remedy that has proved so efficient when properly and timely used. The proper time to use it is when shock is threatened. When shock is actually in progress and profound in character, he considers administration of saline solution ill advised, save perhaps as a medium for other remedies, such as suprarenal principle. Moreover, its injudicious administration is not devoid of danger, and attention is required to the amount, the rapidity of administration, the alkalinity, the temperature and the contraindications. In neither hemorrhage nor shock should strychnin stimulation precede it, for the administration of strychnin in an extremely reduced state of blood pressure has given rise to convulsions and a lethal effect coincident with the rise in blood pressure.

68. **Circumrectal Abscess.**—Thrailkill urges the necessity of the practitioner not allowing himself to be misled by the patient's statement, but insisting on an examination. Antiseptic precautions are as necessary here as anywhere. A straight bistoury is preferable to a curved one because the exact location of its point can be more readily detected. The incision should be wider than the widest induration or abscess. A curette should never be used in cleaning out these abscess cavities owing to the danger of opening up a new field for bacterial invasion. The abscess cavity should be packed firmly in the first dressing to prevent subsequent hemorrhage. The patient should be kept on the best of nourishment and allowed the freedom of his room as early as possible.

Texas State Journal of Medicine, Fort Worth.

October.

73 *What Shall We Do with the Prostitute? D. Lewis, Chicago.
74 *Microscopic Diagnosis of Diseases of the Uterus and Cervix Uteri from Scrapings and Sections. J. J. Terrill, Galveston.
75 *What Should be the Relations of Pharmacists and Physicians? J. N. McCormack, Bowling Green, Ky.
76 Kerato-Iritis, with Report of Case. A. J. Caldwell, Amarillo.

73. **The Prostitute.**—Lewis presents the arguments urged on the side of segregation and regulation in general.

74. **The Microscopic Diagnosis of Uterine Diseases.**—Terrill discusses the relations of the clinical, gross pathologic and histologic features of uterine diseases, and emphasizes the importance of proper labeling of every specimen sent to the pathologist.

75.—This article was published in THE JOURNAL, Oct. 5, 1907, page 1163.

Colorado Medicine, Denver.

October.

77 President's Address, Colorado State Medical Society. H. R. Bull, Junction.
78 *Transperitoneal Retro-Gastric Surgery, with Report of a Case of Pancreatic Calculi and One of Retro-Gastric Sarcoma. C. E. Ruth, Denver.

78. **Pancreatic Calculus.**—Ruth reports the removal of a calculus, or rather of a double chain of calculi, forming a perfect cast of the greatly dilated pancreatic duct system. The largest stone measured 15/16 of an inch in width by over 2 inches in length. Its left extremity was bifurcated and continued in a chain of stones from each prong toward the tail of the pancreas. The total weight was 280 grains. Operation was undertaken on a diagnosis of biliary colic, but on examination no evidence of a gall bladder or of calculi in the biliary passages was forthcoming. Running directly across the abdomen, however, posteriorly to the stomach and extending throughout the entire length of the pancreas was a dense calcareous mass. This was reached through a three-inch vertical slit through the least vascular part of the gastric omentum, exposing the head and body of the pancreas, which was penetrated with a sharp-pointed curved scissors at the junction of the head and body until the mass was reached and removed in pieces. The body of the pancreas was sutured with catgut and the main opening was drained with a fish-tail drainage tube. The retrogastric space was drained by a separate tube to intercept any overflow. Recovery was uneventful, and the patient has enjoyed an unimpaired digestion up to the present time, over one and one-half years. A noteworthy point in the history was the entire absence of pancreatic secretory or digestive disturbance in the intervals between the attacks of pain. Ruth was impressed with the ease with which the pancreatic space could be reached when a bolster was placed beneath the back in the part of the dorsal region, and reports also another case of

attempted removal of a sarcoma of the pancreas, which, however, was found impracticable, owing to the ramifications of the growth among the large vessels.

Annals of Gynecology and Pediatry, Boston.

October.

79 Spina Bifida Occulta: Study of One Case by the Roentgen Method. A. W. George, Boston.
80 Social Education of the Child. A. L. Benedict, Buffalo, N. Y.
81 Treatment of Pelvic Infections. C. W. Barrett, Chicago.

The Northwestern Lancet, Minneapolis.

October.

82 Pathology of Gall-Bladder Disease. J. L. Rothrock, St. Paul.
83 Medical Treatment of Gall-Bladder Disease. M. K. Knauff, Two Harbors, Minn.
84 Surgical Treatment of Gall-Bladder Disease. J. E. Moore, Minneapolis.
85 *Case of Acute Insanity in a Child Nine Years of Age. M. J. Jensen, Minneapolis.

85. **Acute Insanity in a Child Nine Years Old.**—Jensen describes an interesting case of acute emotional exaltation in a child 9 years of age, subsequent to typhoid fever. The child recovered rapidly under rest, iron, arsenic, small doses of strychnin and hypnotics as required.

Chicago Medical Recorder.

October.

86 Pathology of the So-Called "Essential Hematuria." H. L. Kretschmer, Chicago.
87 Laxatives in After-Treatment of Laparotomy. H. T. Byford, Chicago.
88 Intravenous Salicylic Medication. W. F. Bernart, Chicago.
89 Risk in Life Insurance Examinations. C. L. Wheaton, Chicago.

Therapeutic Gazette, Detroit.

October.

90 *Appendicitis Simulating Sacroiliac Disease and Sciatica. J. T. Rugh, Detroit.
91 Eradication by Surgical Means of the Nasolabial line. C. C. Miller, Chicago.
92 Errors in Diagnosis and Treatment of Skin Diseases. Don'ts in Dermatology. L. D. Bulkley, New York.
93 Relation of Production of a Rise of Temperature to Action of Heart and Arterial Tension. I. Ott and J. C. Scott, Philadelphia.

90. **Appendicitis Simulating Sacroiliac Disease.**—Rugh asserts that we are prone to look on referred pain as an accompaniment to chronic types of disease, although it probably occurs frequently in the acute. The mind usually associates appendicitis with the abdominal cavity and particularly the right inguinal region. In order to counteract this tendency, attention should be directed to any unusual manifestations of common conditions that the clinical mind may be alert to possible reflection of the subjective evidence of disease. With this end in view he reports three illustrative cases. In the first a girl aged 17 came under attention for a limp in the right leg which had been present for about a month and was intermittent. There was nothing to call attention to the abdomen and the signs generally pointed to incipient sacroiliac disease. She was taken into the hospital, but the progress of the case subsequently revealed symptoms of appendicitis, and on operation an inflamed appendix containing a fecal concretion was found. A complete cure followed operation. In the second case all the symptoms pointed to sciatica and various measures, including nerve stretching and osmic acid injections, were taken, but without effect. The memory of the first case, aided by information gained as the result of continued investigation, led to a diagnosis of chronic appendicitis with reflex pain projected along the lumbar and sciatic plexuses. In this case also recovery from operation was attended by complete cure. A third case of similar purport is reported.

Journal of the Medical Society of New Jersey, Orange.

October.

94 Etiology and Pathology of Diseases of the Gall Bladder. H. G. Norton, Trenton.
95 Diagnosis of Gallstone Disease. P. A. Harris, Paterson, N. J.
96 *Complications in Diseased Conditions of the Biliary System. (To be continued.) G. K. Dickinson, New Jersey.
97 *Tetanus and Antitetanic Treatment. D. Strock, Camden.
98 Sanatoria, Their Advantages and Limitations. I. H. Hance. Lakewood.

96. **Complications in Biliary Diseases.**—Dickinson classifies the conditions leading up to an extension of diseased processes of the biliary region as follows: 1. Receptive nerve states. 2. Obstruction of the flow of bile, on the one hand depriving the intestine of its accustomed fluid, and on the other the physiologic and dynamic conditions induced by its failure to be discharged. 3. Conditions of tension. 4. Bacterial invasion either ascending from the duodenum or transmitted through the blood. 5. Inflammatory states in surrounding structures and their concomitants. 6. Ulcerations through calculi. 7. Hyperplasia of regular or irregular development. He considers each of these conditions in detail.

97. **Tetanus.**—Strock records a case illustrating his contention that for tetanus antitoxin to be effective in fully developed cases large quantities must be given. Strock feels encouraged to believe that the pessimistic view entertained by the profession as to the use of antitetanic serum in fully developed tetanus will be modified in the future.

Journal of Nervous and Mental Disease, New York, N. Y.

October.

99 *Loss of Comprehension of Proper Names. F. R. Fry, St. Louis.
100 *Symptomatology of Lesions of the Lenticular Zone and Pathology of Aphasia. C. K. Mills and W. G. Spiller, Philadelphia.
101 Have the Types of General Paresis Altered? (Continued.) L. P. Clark and C. E. Atwood, New York.

99. **Loss of Comprehension of Proper Names.**—Fry reports the case of a man 40 years of age, who, after an injury to the head, lost the power of recalling all names, places and persons, even of the members of his family. He had none of the usual aphasic difficulties and was able to talk fluently and correctly so long as proper names were not involved. He could repeat names without difficulty and wrote them accurately and without hesitation when told to do so, but seemed to have no comprehension regarding them. Fry likens the singular loss of one class of conceptions in this case to certain cases in which word blind patients can still recall mathematical characters and do calculations, or to cases in which patients having command of two languages entirely lose recollection of one and retain the other.

100. **Lesions of the Lenticular Zone.**—Mills and Spiller draw the following general conclusions from their investigations of this subject: Lesions restricted to the lenticula apparently do not cause sensory symptoms. Motor symptoms probably result from lesions situated in certain parts of the lenticula: speaking generally, the lenticula may be regarded as a motor organ. Anarthric or dysarthric speech disorders result from lesions of some portion of the left lenticula, which probably contains centers which are concerned with the movements which make speech possible. Destructive lesions of certain portions of the lenticula probably cause a paresis of the limbs or face. The paresis or paralysis caused by destructive lesions of the lenticula differs from that produced by capsular lesions, the impairment of power not being so severe and not being so characteristic in the former as in the latter case. The paresis or paralysis which is caused by lenticular lesions differs from that produced by cortical lesions, in that it is less likely to be dissociated; although dissociated lenticular paresis may occur. While the loss of power which results from a destructive lenticular lesion is permanent it is usually not intense. Persistent true motor aphasia, as this form of speech disorder is generally understood, is not caused by a lesion restricted to the lenticula, no matter what its size or destructiveness. The insula, cortex and subcortex play an important part in speech phenomena, one entirely different from that played by the lenticula and the internal capsule. The insula is a part of the cortical motor center for speech, Broca's convolution probably forming with the insula the entire cortical motor center for speech. Motor aphasia may be present without a lesion of the third frontal convolution. The lenticula forms too large a portion of the cerebral hemisphere to be regarded merely as a vestigial organ.

Ophthalmic Record, Chicago.

October.

103 Case of Pulsating Exophthalmos. Ligation of the Common Carotid. Death. E. E. Jack and F. H. Verhoeff, Boston.
104 European Eye Clinics and Their Clinical Opportunities. Hamburg, Königsberg, Berlin and Prag. A. P. Horwitz, Chicago.
105 Case of Intraocular Tuberculosis which Closely Simulated Glioma of the Retina. S. Theobald and W. G. MacCallum, Baltimore.

106 Treatment of Trachoma with Boracic Acid Without Massage. G. L. Noyes, Columbia, Mo.
107 New Pathogenic Micro-organism of the Conjunctival Sac. H. McKee, Montreal, Can.
108 Sympathetic Irritation Following Mules' Operation. L. Emerson, Orange, N. J.
109 Hogue-California Trial Frame. F. B. Eaton, Portland, Ore.

Louisville Monthly Journal of Medicine and Surgery.

October.

110 Aphasia Complicating Typhoid. Report of a Case in a Child. H. E. Tuley, Louisville, Ky.
111 *Dawn and Development of Urology. B. Lewis, St. Louis.

111.—This article also appeared in the *Medical Fortnightly*, Aug. 26, 1907.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 2.

1 English and German Education: A Parallel. Sir Felix Semon.
2 *The Cancer Problem: A Suggestion. F. B. Skerrett.
3 *An *X* Ray Method for Immediate Localization of Foreign Bodies. C. F. Bailey.
4 Case of Radical Mastoid Operation with Subsequent Septic Infection and Rupture of the Lateral Sinus. K. Renshaw.
5 Treatment of Delayed Resolution After Pneumonia. W. M. Crofton.
6 Case of Chylothorax with Record Quantity of Fluid Withdrawn from the Left Cavity and Ultimate Recovery. J. P. Milton.
7 Form and Manipulation of Instruments Used in Ophthalmic Surgery. E. Landolt.
8 *Causes of Blindness in 333 Inmates of the Sheffield School for the Blind. S. Snell.
9 Optic Neuritis and Nasal Accessory Sinus Disease. H. M. Fish.
10 *Improved Form of Artificial Eye. K. Grossmann.
11 Portable Refractometer and Portable Astigmometer. Id.
12 Iridocyclitis. F. R. Cross.
13 *Four Cases of Congenital Word Blindness Occurring in Same Family. J. Hinshelwood.
14 Clinical Observations on Spring Catarrh. H. Herbert.
15 Fatal Case of Orbital Thrombosis. E. E. Smith.
16 Treatment of Alternating Squint. R. J. Coulter.
17 Vesicular Affections of the Cornea. W. T. H. Spicer.
18 Lepra Ophthalmica in Ceylon. W. H. de Silva.
19 Pathogenesis of Glaucoma and Rationale of Its Treatment. T. Henderson.
20 Prolapse of Iris in Simple Cataract Extraction. A. C. Roper.

2. **The Cancer Problem.**—Skerrett points out that the experimental propagation of cancer to mice lends itself admirably to the study of those conditions, both artificial and natural, that tend to recovery. The essential characteristic of the cancer cell is its apparently unlimited power of multiplication. In this the nucleus takes the chief part, and he asks if it is not possible in some way to rob the nucleus of its abnormal power of proliferation. Chemically, the nucleus consists of nuclein. By a train of reasoning he arrives at the conclusion that certain leucocytes supply the nuclein bodies so necessary to the rapid mitosis of the cancer cell. He points to the observed fact that erysipelas has been known to check the advance of cancer, and suggests that this may be due to the great demand for leucocytes as repairers of damage caused by such a diffuse spreading inflammation, cutting off the supply to the cancer, since repair of injury is of more vital importance to the organism than mere growth. The facts that cancer tumors in mice become stationary at a certain stage, of the difficulty of inoculating a second tumor after a primary growth of fair size, and the phenomena recently published by Mackay (*Brit. Med. Jour.*, July 20, 1907), and Sommerville (ibid., Aug. 3, 1907), all tend to suggest that the exhaustion of some necessary pabulum is their cause. Nuclein is remarkable among organic bodies for its high percentage of phosphorus, and he asks whether it might not be possible to substitute some of the other elements of the same periodic group, e. g., arsenic, antimony or bismuth. Arsenic has already been stated in America to possess some inhibiting effect on malignant growth, and it seems to have an action on leucocytes for it diminishes their number in leukemia. The possibility of experimental investigation on mice leads him to suggest inquiry into the following points: 1. The action on carcinomatous tumors of a diet free from nuclein and its progenitor, nucleoproteid. This would resemble somewhat the purin-free diet suggested for gout, etc., and observations of any association between the two diseases would be interesting. The nuclein-free diet might also be tried in conjunction with the internal administration of arsenic, etc. 2. The action of a phosphorus-free diet, with or without arsenic, etc., in mouse cancer. 3. The production of extensive inflammatory conditions far removed from the cancerous growth, so as to withdraw the leucocytes and remove the cancer pabulum. Skerrett considers that in the present state of our helplessness as regards cancer it is incumbent on us to try any reasonable experiment on mice, even though based on purely theoretical considerations.

3. **X-Ray Localization of Foreign Bodies.**—Bailey describes in detail an ingenious method of *x*-ray examination, based on the principle that an upright thin plane, illuminated vertically from below, gives a linear shadow. If the illuminant be moved to a position on the same horizontal plane as it orginally occupied and at right angles to the plane examined, then the shadow of the original thin plane becomes a figure bearing a certain definite relation to the plane, and the parts of the shadow also bear a proportionate relation to the corresponding parts of the plane under examination. In the case, for instance, of a needle in the hand, the hand is first examined, the tube being inclined below the screen; the hand is then manipulated till the shadow of the needle lies transversely to the couch and in the center of the smallest aperture of the diaphragm. Its line is marked with an anilin pencil, and a thin stylet of twisted lead foil, with its end bent to distinguish it, is fastened over the line. On re-examination the two bodies should register as one. The hand is then turned back upward, and when the two bodies register as one another line is marked, and a straight stylet affixed thereto. If on turning the palm upward the three shadows register as one, this fixes the vertical plane of the needle. Now by moving the tube say, six inches to the left, removing the diaphragm, the shadow is resolved into three, the space between the palmar and dorsal stylet representing the thickness of the hand. The relation of the needle shadow to the other two shadows marks the depth and direction of the needle. For practical purposes this method is nearly accurate, and it can be made quite so by plotting out an 18-inch line with a cross line at either end. On the upper cross line is marked off the distance between the palmar stylet shadow and that of the foreign body, and on the lower cross line on the opposite side a distance equal to that to which the tube was moved laterally, in the present case six inches. A line joining the two points thus marked off will bisect the 18-inch line at the actual depth of the needle. By the plan thus outlined, the operator can find the depth, direction and length of the foreign body, and the surface line across which he will make his incision.

8. **Causes of Blindness.**—Snell's investigations showed that out of 321 cases of blindness in Blind School children, no fewer than 136, or 42.36 per cent., were due to ophthalmia neonatorum; yet "to prevent, and indeed stamp out, the disease, all that is needed is to give attention to the baby's eyes at birth." Other causes were as follows: Ulceration of cornea, 7 cases; trachoma, 1; interstitial keratitis, 10; sympathetic ophthalmia, 22; congenital defects: anophthalmos, 3; hydrophthalmos, 5; microphthalmos, 6; coloboma, 1; albinism, 1; nystagmus, 1; congenital cataract, 30; congenital blindness (retinal and chorioid disease and optic nerve atrophy), 20; smallpox, 4; scarlet fever, 9; measles, 11; German measles, 2; typhoid, 2; whooping-cough, 2; optic atrophy from brain disease, 35; injury to the head, 7; double glioma, 2; refraction, 2; burns, 1; malingering, 1.

10. **Artificial Eyes.**—Grossmann's improvement in glass eyes consists in the addition to the shell of a protrusion corresponding to the part of the lid that sinks in most.

13. **Word Blindness.**—Hinshelwood reports four cases occurring in one family of word blindness, a condition in which text blindness is present although sight, intellect and speech are intact. No difficulty was experienced in the education of the first seven members of the family, but the eighth, ninth, tenth and eleventh, all boys, experienced great difficulty in learning to read, being unable to recognize all but a few very simple words, without being allowed to appeal to the auditory memory by spelling them out aloud. Yet numbers up to hundreds of thousands were fluently read, and arithmetic and writing presented little difficulty. One boy, an enthusiastic football

devotee, by dint of hard labor and poring over the football accounts in the papers had acquired a considerable visual vocabulary of football terms, which he recognized at sight, such as goal, goal keeper, forwards, backs, runs, dribbling, etc., and the names of various clubs he could recognize by sight at once. A diagnostic point of importance, to prevent the error of expecting that glasses will cure the condition, under the belief that it is ocular, not cerebral, is found in the fact that though the visual memory for words may be very defective, that for numbers may be perfectly normal. This is not, however, invariably the case. Another point is that the difficulty of reading is always the same no matter how large the type. This indicates the cerebral origin of the condition. There is usually no difficulty in recognizing letters, as would be the case in a purely ocular defect; the chief difficulty is in recognizing words by sight without spelling them out letter by letter—in storing up visual images of words, owing to some defect in the cerebral center for the visual memory of words, which is situated, in right-handed people, in the left angular gyrus. Persevering education is the remedy. The opposite angular gyrus can in time be made to assume the duties of the defective one. Such children should be taught alone, and not in a class with other children, for they become discouraged by the contrast between their own progress and that of normal children.

Lancet, London.

November 2.

21 Harvelan Oration on Need of Research in Medicine. F. Taylor.
22 *Therapeutic Immunization. A. E. Wright, S. R. Douglas, J. Freeman, J. H. Wells and A. Fleming.
23 *Growth of Malignant Disease in Man and the Lower Animals with Special Reference to the Vascular System. E. Goldmann.
24 Case of Ruptured Bladder; Operation 42 Hours After Accident; Recovery. P. H. Lang.
25 Case of Injury and One of Exposure of Bladder in Operations for Femoral Hernia; Recovery in Both Cases. J. D. Malcolm.
26 Injury to Bladder While Operating on Femoral Hernia. E. Owen.

22. **Studies in Immunization.**—Wright and Douglas and others present with illustrative accounts, charts of the course of the tuberculo-opsonic index in different classes of cases. These series of charts demonstrate respectively: 1. Points in connection with the immunizing reaction which is obtained in response to the inoculation of bacterial vaccines. 2. Autoinoculation effects in the first beginnings of tuberculous infection. 3. Autoinoculation in a case of gonococcal arthritis and the correspondence which exists between these phenomena and the clinical effects. 4. Autoinoculation effects in advanced phthisis. 5. Autoinoculation effects in generalized infections. 6. (a) The conditions which are found in man in streptococcal and other septicemias, and (b) the results which have been obtained in these conditions by recourse to vaccine therapy. 7. That autoinoculation effects are obtained when active or passive movements are undertaken in localized bacterial infections. 8. That autoinoculation effects are elicited by operative interference with foci of bacterial infection. 9. That autoinoculation effects are obtained by active and passive hyperemia affecting foci of bacterial infection. The paper concludes with a table illustrating some of the diagnostic and therapeutic problems that can be resolved by recourse to the autoinoculation test.

23. **Malignant Disease.**—Goldmann gives a résumé of his work referring to the relation of cancer to the vascular system. The points of view from which he approaches his subject are the following: 1. How far is the vascular system responsible for the dissemination of malignant growths? 2. What are the general conditions of circulation in these growths? 3. What purpose does the multiplication of blood vessels in malignant growths serve—merely that of nutrition or also that of defense? In regard to the first condition, he states that in the early stages of sarcoma as well as carcinoma an extensive invasion, by the vasa vasorum, of tumor cells into the coats of blood vessels occurs. This invasion is more marked in veins than in arteries, and the cells penetrate in veins to just beneath the intima, while in arteries they rarely proceed further than the outer coat. Arterial cancer thus appears as a form of periarteritis, and venous cancer as one of endophlebitis carcinomatosa. His extensive investigations into benign growths lead him to the conclusion that tumor-cell infiltration into the walls of channels bounded by elastic tissue is a characteristic feature of malignant tumors only. Goldmann considers it probable that the vascular degeneration thus induced plays an important part in the dissemination of cancer cells, although he believes the relations between the lymphatic and vascular systems to be far more intimate than has hitherto been believed. As to the second condition, the general conditions of circulation in malignant growths, the characteristic distribution of blood vessels distinctive of each particular organ and dependent on their embryological development gives place on the appearance of a malignant growth to chaotic irregularity, extensive vessel formation ensues, most marked in the zone of proliferation. With the breaking down in the center of the cancerous growth the vessels there disappear, the new-formed vessels occupying only the capsule. In sarcoma, however, the new vessels are evenly distributed throughout the growth, thus forming a distinctive microscopic picture. From this and a consideration of the appearances in chondroma of the mouse Goldmann notes two points: (a) The stroma of experimental tumors owes its origin to the inoculated animal and is not derived from the grafted cells, and (b) the structural qualities of the stroma are determined by the tumor cell. Again from these considerations he deduces the conclusion that the extent of vascular neoformation may be regarded as a standard whereby the body's resisting power may be determined. In regard to the third point, Goldmann's conclusion is that the new-formed vessels that spring up under the distributing influence of a new growth invasion must have some relation to defense; but, as in the case of Ehrlich's side chains, an arrangement in the body originally destined to safeguard one of its organs may eventually develop into a cause of harm. His practical conclusions are as follows: A careful study of the vascular conditions prevailing in malignant growths affords an anatomic test of the reactive powers of the body. It will be necessary to collect more extensive evidence on these lines in order to bring it into closer relation with our clinical knowledge of the varied appearance and history displayed by the different forms of cancer affecting the same organ. In future, for example, in the case of the mamma it will not be sufficient for clinical and therapeutic purposes to distinguish between scirrhus, adenoma, etc., from a purely histologic point of view as to the arrangement of the tumor cells, their different forms of degeneration, etc. It is equally important to discover their reactive powers on the body as tested by stroma formation. By this means we shall sooner realize the demand for treatment based on a knowledge of the individual qualities of growth.

The Practitioner, London.

October.

27 Valvular Disease of the Heart. R. Crawfurd.
28 Movable Kidney. C. M. H. Howell and H. W. Wilson.
29 *Treatment of Diseases of the Heart. J. Hay.
30 *Complications of Diphtheria. T. Fisher.
31 *Treatment of Microbic Invasions by Bier's Method. A. MacLennan.
32 Treatment of Some Inflammatory Conditions by Bier's Method. A. B. Flett.
33 Deviations of the Nasal Septum and the Killian Submucous Resection. D. McKenzie.

29. **The Treatment of Heart Diseases.**—According to Hay, the recent discoveries in regard to the contraction of the heart and the introduction of the myogenic theory of stimulus therefor, emphasizes the importance of the condition of the myocardium in all cases of heart failure, and less stress is being laid on the nature of the coarse anatomic lesion. Hay discusses the relation of the digitalis group to the treatment of cardiac disorders. Depression of tonicity particularly is an indication for the administration of some member of the digitalis group. Dilatation of the heart, hemic bruits, pulsations in the veins of the neck, are all evidences of lowered tonicity. This indication holds irrespectively of valvular lesions. The group also renders systole more effective. Hay is convinced that the tendency is to be satisfied with too small doses of digitalis and squills. He believes that when we are sure that these drugs are called for we should push them until we get the result aimed at or until we get signs of physiologic action.

In urgent cases he believes in giving one or two very large doses of tincture of strophanthus, 15 minims, every other hour for a few hours, combined with a similar dose of digitalis or squills, the digitalis or squills to be then given alone. Morphin he considers almost invaluable in the treatment of heart disease in steadying the heart and in the treatment of dyspnea associated with either a raised or lowered condition of blood pressure. Where there is chronic nephritis the causation of the dyspnea may be in doubt; but for Hay that does not matter for the "old bugbear" of the danger of morphin injections in nephritis is dead, and opium may be given, in his opinion, when the symptoms demand it.

30. **Complications of Diphtheria.**—In addition to the well-known complications of cardiac failure, paralysis of the diaphragm, suppression of urine, bronchopneumonia and nervous sequelæ, Fisher calls attention to others less generally recognized, though of course not peculiar to diphtheria: Enlargement of the liver, arterial disease, thrombosis in one or more cavities of the heart (rare), interlobular emphysema, and in one case extremely rapid clubbing of the fingers associated with gangrene at the base of the left lung.

31. **Bier's Hyperemia.**—MacLennan proposes "obstruction hyperemia" as a literal and adequate rendering of *Stauungshyperämie*. He describes the ordinary method, discusses and answers objections, and makes the following recommendations to beginners (for his article is explanatory and written with a view to enabling the general practitioner to do the work for himself): 1. Avoid excessive tightness and change the position of the bandage. 2. Gain experience of method in mild cases before trying it in serious ones. 3. Consider the patient's feelings. 4. Combine with other approved methods, not forgetting *ubi pus ibi evacua*. 5. Lay dressings loosely, do not bandage them, during congestion. 6. Apply antiseptics during intervals and dry dressings. 7. Allow time for dissipation of edema. 8. Apply painless massage remote from the diseased part. He then describes the method by vacuum suction in place of mechanical obstruction, discusses the class of cases in which it is suitable, and sums up its advantages in that it is agreeable to the patient, relieves pain and obviates painful procedures, allows earlier resort to movement, is beneficial before infection, in mild cases, in severe cases when limited, aids recovery and repair in face of infection, reduces the size of incisions and diminishes the number of operations.

Journal of Obstetrics and Gynecology of the British Empire, London.

October.

34 *The Byrth of Mankynde. (Concluded.) J. W. Ballantyne, Edinburgh.
35 Sarcoma of the Vulva Including Account of Case of Spindle-Celled Sarcoma of the Labium Minus. W. B. Bell, London.
36 Case of Primary Endothelioma of the Vagina Treated by Removal of Uterus and Vagina: After-History of Case of Primary Sarcoma of the Vagina. H. Jellett.
37 Case of Retention in Utero of the Separated After-Coming Head. R. G. McKerron.

34. **The Byrth of Mankynde.**—Ballantyne concludes from the last number an interesting historical article with reproduced illustrations and copious quotations from Raynalde's book (A. D. 1554) with the foregoing title which, Ballantyne says, "was the most potent factor in establishing the customs which cluster round the practice of midwifery in these [British] islands, customs which can be traced and recognized even now."

Medical Press and Circular, London.

October 30.

38 *Prevention of Fever in the Puerperium. H. O. Nicholson.
39 Feeding Infants on Sterilized Whole Milk. M. P. Kerrawalla.
40 Hemorrhagic Rashes. (Concluded.) G. Pernet.
41 Prevention of Tuberculosis, Especially in Ireland. R. E. Matheson.

38. **Prevention of Puerperal Fever.**—Nicholson divides the measures he recommends into those safeguarding against septic infection and those assisting and maintaining the involution of the uterus. Among the latter he ranks highly the services of the following pill, one being given thrice daily for the first ten days of the puerperium: Powdered digitalis, ½ grain; ergotin and quinin sulphate, of each 1½ grains; extract of nux vomica, ¼ grain. He makes a routine use of this pill for every patient who comes under his care.

Clinical Journal, London.

October 16.

42 Chorea. A. E. Garrod.
43 Mediterranean Fever. F. M. Sandwith.
44 *Atrophic Rhinitis. C. A. Parker.

October 30.

45 Graves' Disease. H. Mackenzie.
46 *Leprosy. F. M. Sandwith.
47 Treatment of Surgical Emergencies. A. Baldwin.

44. **Atrophic Rhinitis.**—Parker suggests that the unilateral form of atrophic rhinitis differs from the bilateral form both etiologically and clinically, and that it may be relieved by surgical treatment. He considers the etiologic factors of the unilateral form to be as follows: 1. Deviation of the septum causing nasal obstruction on the one side and excessive roominess on the other, which abnormalities do not reach their greatest proportions until after puberty. 2. The establishment of chronic muco-purulent discharge as a result of acute rhinitis or influenza. 3. Drying of the mucopus into crusts, due in a great measure to the fact that, the opposite side being occluded by the deviation, the whole duty of warming and moistening the inspired air is thrown on the patent side, and hence an undue amount of moisture is abstracted and the discharges become dry and adherent to the mucous membrane. 4. Roominess of the affected side preventing the expulsion of these dried discharges by blowing the nose. 5. Putrefaction of the retained crusts leading to ozena or stench. The treatment in all cases is based on keeping the nasal cavities absolutely clean and preventing the retention, drying and putrefaction of the discharge. The simplest method is by loosening the crusts with hydrogen peroxid followed by syringing until every particle of crust and discharge has been removed; then packing the nasal cavity or cavities with cyanid gauze. The gauze should be removed night and morning and the nose syringed and repacked. In unilateral atrophic rhinitis reduction in size of the too roomy nasal cavity, enlargement of the stenosed nostril, and restoration of its activity and removal of the mucopurulent discharge are indicated. Killian's submucous resection of the septum fulfills the first and second indications, and the appropriate use of local remedies the third.

46. **Leprosy.**—Sandwith refers to one case, in his lecture, in which a serious sufferer was practically cured, so as to be able to become a bank manager and even a vice-consul, by intramuscular injections of chaulmoogra oil; 554 injections of one dram each were given, extending over a period of over five years. Leprosy, he declares, should be notifiable; lepers should not use the same laundry as the "clean;" all rags, paper, etc., that come in contact with the lepers' discharges should be burned, and if practicable, discharging cases should be isolated. When leprosy becomes arrested, after a period of quarantine the patients may be liberated. Propagation should be prevented so far as possible; when impossible, the healthy children should be separated from the leprous parents.

Annales de l'Institut Pasteur, Paris.

September, XXI, No. 9, pp. 673-752.

48 Paralyzing Influence of Certain Acids on Laccase. G. Bertrand.
49 Rôle of Bacteria in the Development of Certain Myxomycetes. E. Pinoy. Commenced in No. 8.
50 Antiseptic Action of Dry Methanal. L. Perdrix.
51 Additional Note on Microbe of Whooping-Cough. (Microbe de la coqueluche.) J. Bordet and O. Gengou. Id. Reyher.
52 Study of Surra of Indo-China. H. Schein.

Bulletin de l'Académie de Médecine, Paris.

October 15, LXXI, No. 34, pp. 223-250.

53 *Cancer and Tuberculosis. E. Boinet.
54 Deviation and Torsion of Larynx Sign of Aneurism of Arch of Aorta. (Nouveau signe de l'anévrisme de la crosse de l'aorte.) Id.
55 *Infected Hematoma in Etiology of Tetanus. (Prophylaxie de certains cas de tétanos.) H. Vincent.
56 Uterus and Tube Found Between Testicles in Apparently Otherwise Normal Young Man. Cornil and Brossard.

October 22, No. 35, pp 251-278.

57 Discussion of Revision of Law for Protection of Infants. (Loi Roussel.) E. Vidal.

53. **Cancer and Tuberculosis.**—Boinet gives details of 11 cases in which tuberculosis and cancer existed in the same individual. This was nearly one-third of his total cancer material of 35 cases found in 800 autopsies, which included 272 cases of tuberculosis. He is convinced that cancer in one generation seems to confer a predisposition to tuberculosis in following generations. In 9 cases the cancer was in the stom-

ach and in the others in the esophagus or pancreas. The tuberculous lesions were evidently older than the malignant disease in a number of the patients. In some cases both cancerous and tuberculous nodules were found on the same lung.

55. **Infected Blood Clots in Etiology of Tetanus.**—The appearance of tetanus in certain cases after the wound has healed without suppuration and in the absence of any of the circumstances which usually favor the growth of the tetanus bacillus requires explanation. Neither the favoring activity of other organisms nor failure of phagocytic power can be invoked to account for these cases. Vincent explains them by supposing that the bacillus proliferates in the interior of a blood clot. His long article presents evidence that the bacillus of tetanus is a saprophyte which only accidentally acquires virulence when peculiarly favorable conditions are encountered. These conditions are especially combined in a blood clot. This fact Vincent has determined by extensive clinical, experimental and laboratory experiences. A single tetanus bacillus reaching an extravasation of blood proliferates in it, protected against the action of phagocytes, and develops a toxin which is exceptionally virulent. The toxicity attains its maximum in the blood clot culture from the twelfth to the eighteenth day. The microbe retains its vitality and its toxicity exceptionally long in the blood clot culture medium—on other media the maximum is reached by the sixth or eighth day—which suggests the necessity for repeating prophylactic serum injections at intervals of eight or ten days. The practical conclusions of his research are that in operative or accidental wounds, pure hematoma, even minimal infiltration of blood, the clots adherent to the walls of the incision or hidden in some crevice constitute inert foci, which serve as culture media peculiarly favorable to the proliferation of the bacillus, even in the absence of any associated microbes or mortification of tissue. The persistence of the tetanus bacillus alone in wounds treated with antiseptic measures is easily explained by the extreme resistance of its spores, far beyond that of the pus cocci. Wounds suspected of contamination by the tetanus bacillus should not only be energetically disinfected, but should be freed from the slightest trace of blood clots which may imprison spores that have escaped the action of the disinfectants. In operations the surgeon should be careful not to leave any hemorrhagic collection, however small. The evacuation of an extravasation in the vicinity of an open wound and disinfection of the cavity are also salutary precautions. A single injection of serum is unable to cope with the toxins generated when the bacilli lurk in a blood clot or hematoma, and it should be repeated two or three times, with special care to remove all foci of extravasated blood in which the bacillus could proliferate. The bacillus may be brought to the spot in the circulating blood. In all his tests, he adds, he never found catgut infected with the microbe of tetanus.

Semaine Médicale, Paris.

October 30, XXVII, No. 44, pp. 517-528.

58 *Bacteriologic Findings in Infants' Stools in Health and in Gastrointestinal Affections; Their Variations on Different Diets. (Etats bactériens des fèces des nourrissons.) P. Nobécourt and L. Rivet.

58. **Bacteriologic Findings in Infants' Stools on Different Diets.**—Nobécourt and Rivet conclude from their study of this subject that copious fluid diarrhea is generally accompanied by aerobic modification of the bacteriologic findings, suggesting the advisability of introducing albuminoid elements into the diet. On the other hand, fetid and less copious diarrhea is generally associated with anaerobic modifications of the flora, which contraindicate albumin and call for starch in the diet.

Archiv für Gynäkologie, Berlin.

LXXXIII, No. 2, pp. 257-503.

59 *Processes of Conception, Pregnancy, Delivery and Puerperium with the Uterus Cut Off from the Central Nervous System. (Vorgang von Zeugung, etc., an der ausgeschalteten Gebärmutter.) Krueger and Offergeld.

60 *Artificial Interruption of Pregnancy on account of Pulmonary Tuberculosis. (Zur Frage der künstlichen Unterbrechung der Schwangerschaft wegen Lungentuberculose.) C. Pradella.

61 Lymphangioma of the Tube. F. Kermauner.

62 Cases of Extrauterine and Accessory Cornu Pregnancies. (Beiträge zur Extrauterin- und Nebenhorngravidität.) Scheffzek.

63 *Treatment of Inflammatory Affections of Uterine Adnexa. (Behandlung der entzündlichen Adnexerkrankungen.) H. Forssner.

64 *Resection of Myomatous Uterus. (Resectio uteri bei Myomen.) K. Frankenstein.

59. **Childbirth After Uterus Has Been Cut Off from Central Nervous System.**—Krueger and Offergeld report two cases in which there was painless spontaneous delivery at term after a fall from a height which had evidently severed the spinal cord. In the second case the woman was delivered of twins. All the children were living. Both the women succumbed soon to the complications of the accident—pyelonephritis or suppurative meningitis. After this experience extensive experiments were undertaken on dogs, cats and rabbits to observe the processes of conception, gestation and delivery after the uterus had been completely cut off from the central nervous system by severing the spinal cord. The results confirm the independence of these natural processes in respect to the brain and medulla oblongata.

60. **Artificial Interruption of Pregnancy in Pulmonary Tuberculosis.**—Pradella describes the results in 22 cases of pulmonary tuberculosis in which a pregnancy caused the pulmonary lesions to become aggravated. This aggravation became evident irrespective of the stage of the tuberculosis. He has collected from the literature 1,035 cases of pregnancy in tuberculous women. Only 13, that is, 1.25 per cent., died during the course of the pregnancy. The figures show that women in the thirties are most susceptible to aggravation of a tuberculous process, and that repeated pregnancies are peculiarly dangerous in these conditions. The injurious influence on the tuberculosis is due in large measure to the complications of the pregnancy, such as uncontrollable vomiting, and development of tuberculous laryngeal or intestinal lesions. In 17 out of 19 cases in his experience the influence of the pregnancy was unmistakably evident in the serious aggravation of the tuberculous process. Interruption of the pregnancy caused the retrogression of the tuberculous affection in 14 cases and these patients have been in good health since, the interval ranging from two to over twelve years in 11 cases and from two to six months in the others. In one case the woman was artificially delivered at term; in 18 other cases abortion was induced at from the second to the seventh month. In 15 of the women the improvement of the pulmonary affection was evident during the puerperium. He concludes his study of the subject with the statement that the good results obtained in his service justify others in following the principles promulgated, namely, that if a pulmonary tuberculous process shows signs of aggravation under the influence of a pregnancy, and no benefit is derived from systematic conservative therapy, or when external circumstances render such treatment impossible, then the indications are for the removal of the cause inducing this aggravation, that is, therapeutic interruption of the pregnancy. In cases in which the pulmonary process has flared up during previous pregnancies, and there is reason to suspect renewed trouble from this source, then prophylactic measures are justified. General anesthesia was well tolerated by the tuberculous women in his experience.

63. **Treatment of Inflammatory Affections of the Adnexa.**—Forssner reports the results of treatment of these conditions in 1,555 cases at Stockholm. He does not regard salpingo-oöphoritis as a dangerous affection, and makes it a principle to treat the first attack expectantly. An operation is contemplated only when the disturbances persist under conservative treatment or return later, interfering with the patient's earning capacity. The results are classified and tabulated, comparing them with the statistics from other clinics. The mortality of operative treatment seems to be higher than the mortality of the affection in question left to itself.

64. **Resection of Myomatous Uterus.**—Frankenstein's experience with 107 patients has demonstrated that it is possible to avert the postoperative menopause in case of myomectomy by leaving part of the uterus. High resection is able to accomplish this in more than half the cases. Even when menstruation did not continue for long afterward, in his patients, yet its gradual extinction prevented the symptoms of the artificial menopause, while the patients did not suspect the connection between the preceding operation on the uterus and the later

menopause. Even when menstruation did not continue after the operation, the retention of part of the uterus averted the symptoms of the artificial menopause. The women with only a very small part left presented invariably the symptoms of the postoperative menopause. The primary healing of the wound and the end results show no disadvantages from resection.

Archiv für klinische Chirurgie, Berlin.

LXXXIV, No. 2, pp. 325-628.

65 *Histology of Spontaneous Cure of Cancer of Skin. (Histologie der spontanen Heilung des Hautkrebses.) H. Jacobsthal.
66 Resection of Liver. (Neue Beiträge zur Leberresection.) W. Anschutz.
67 *"Tubulization" Treatment of Bullet Wounds of Peripheral Nerves. (Schussverletzungen peripherer Nerven und ihre Behandlung.) T. Hashimoto and H. Tokuoka.
68 Surgical Treatment of Actinomycosis of the Lungs. Karewski.
69 Experiences with Compound Fractures. (353 complicierte Fracturen.) E. Bibergeil.
70 Gradual Development of Central Luxation of the Femur. (Allmähliches Entstehen einer Luxatio femoris centralis.) H. Schloffer.
71 Constriction Hyperemia in Acute Suppurating Infections. (Stauungs-Behandlung acuter eitriger Infectionen.) L. Wrede.
72 *Spinal Cord Paralysis. (Rückenmarkslähmungen.) F. Krause.
73 Experimental Research with Ligation of the Intestine. (Unterbindung des Darmes.) W. L. Bogoljuboff.

65. **Spontaneous Healing of a Superficial Cancer.**—Jacobsthal comments on the scantiness of the literature on spontaneously healing malignant growths, and then gives the details of a cancroid of the temple which spontaneously retrogressed. It first appeared as a small scar left from a blow on the temple. It gradually enlarged while the center healed, so that the growth assumed the shape of a ring. There was no tumefaction or ulceration. The ring-shaped cancroid was enucleated and the microscope showed unmistakable evidences of spontaneous healing.

67. **"Tubulization" in Treatment of Bullet Wounds of Nerves.**—Hashimoto and Tokuoka had occasion to apply Foramitti's "tubulization" technic in 50 cases of injured nerves, on 47 patients. The technic had been worked out on dogs and this was the first time that it was applied in the clinic. The aim is to isolate the stumps of the nerves in a cylinder which serves as a guide for new growth to restore the nerve to normal conditions, uninfluenced by cicatricial processes around. The cylinder must be absorbable, so as not to induce irritation as a foreign body, and it must be of such a texture that the nerve will not become adherent to it. All these features are combined in the artery or vein taken from freshly slaughtered calves. Foramitti stretches the artery over a glass rod and hardens it in a 5 or 10 per cent. solution of formalin for forty-eight hours, and then rinses under running water for twenty-nine hours, then boils it for twenty minutes and lays it aside in 95 per cent. alcohol. The results were uniformly good when the operation was undertaken early enough, and good results were obtained in some cases even after 200 days. It is extremely important that the injury to the nerve should be recognized early so that treatment can be instituted in time for it to be effectual. A number of illustrations are given, showing the technic of the procedure. In some cases the nerve was released from the cicatricial tissue in which it was embedded, and the stumps or injured parts of the nerve were placed in the tube or the slit foreign artery was wrapped around the nerve and sutured. Regeneration always proceeded from the central stump, and the tubulization steered it in the right direction to accomplish its purpose with the least effort and the least delay. Regeneration may occur as late as after 150 or even 200 days, but the prospects are much more promising at an earlier stage. The nerve was sutured in 4 cases and grafted in 3, with or without tubulization. The end results of the various operations were satisfactory in 31 out of the 50 operations, but none was good when 300 days had elapsed. The neuralgia vanished at once or soon after, or at least the disturbances were cured. Restoration of nerve function and restoration of normal nutrition in the limb did not become manifest in less than from six months to a year.

72. **Spinal Paralysis.**—Krause reports twenty-two cases of spinal paralysis in which the symptoms indicated compression of the spinal cord. Laminectomy, however, disclosed in six cases that the trouble was due solely to a local, circumscribed accumulation of cerebrospinal fluid under high pressure. The areolar tissue is liable to develop into an impermeable dividing wall, separating the subarachnoid space into different chambers. Lumbar puncture gives no hint of such an encapsulated accumulation of fluid above, and spontaneous retrogression can not be counted on. Laminectomy is the only measure that will give relief in this serous spinal meningitis. It is manifestly due to some more or less chronic inflammation of the arachnoid.

Beiträge zur klinischen Chirurgie, Tübingen.

LIII, No. 1, pp. 1-255.

74 Transportation and Care of Wounded and Sick in Russo-Japanese Campaign. (Transport und Unterkunft der Verwundeten und Kranken.) Kettner.
75 Fracture of Scaphoid. (Bruch des Kahnbeins des Carpus.) R. Castruccio.
76 *Circular Suture of Arteries and Transplantation of Vessels. (Beiträge zur Gefässchirurgie.) R. Stich, M. Makkas and C. E. Dowman.
77 Vertical and Oblique Fractures of the Sacrum near the Sacroiliac Articulation. (Brüche des Kreuzbeins.) K. Ludloff.
78 Plastic Restoration of Both Feet After Amputation Above the Malleoli. (Zwei Amputationsstümpfe mit plastischer Fussbildung.) Custodis.
79 Pathologic Luxation of Half of Pelvis After Destruction of the Sacroiliac Articulation by Metastatic Carcinoma. (Pathologische Luxation einer Beckenhälfte.) M. Hofmann.
80 Favorable End Results of Gritti Amputations. (Gritti'sche Amputation nach Grund von Nachuntersuchungen.) A. Reich.

No. 2, pp. 257-517.

81 Injuries of Intestines and Mesentery from Contusions. (Stumpfe Verletzungen des Darmes und des Mesenteriums.) J. Hertle.
82 Histologic Study of Spinal Anesthesia. (Rückenmarksanästhesie.) E. H. Van Lier.
83 Dermoid and Epidermoid Tumors on Male Genitals. Paetzold.
84 Mixed Tumors of the Testicles. (Mischgeschwülste des Hodens.) H. Rimann.
85 Experimental Research in Regard to Talma's Operation. K. Omi.
86 Fibrous Osteitis, and Genesis and Treatment of Bone Cysts. C. Pfeiffer.
87 *Injury of Duodenum from Contusion. (Duodenalverletzungen durch stumpfe Gewalt.) H. Meerwein.

No. 3, pp. 519-808.

88 *Prognosis of Operation for Spina bifida. T. Boettcher.
89 *Peruvian Balsam in Treatment of Wounds. (Perubalsam als Mittel zur Wundbehandlung.) F. A. Suter.
90 Fracture of Spinous Processes by Muscular Traction. Traumatic Lumbago. (Dornfortsatz-Frakturen durch Muskelzug.) K. Henschen.
91 Macroscopic Staining of Tumors. (Makroskopische Färbung von Tumoren.) J. H. Zaayer.
92 Serum Treatment of Traumatic Tetanus. (10 mit Antitoxin behandelte Fälle von Wundstarrkrampf.) G. Mandry.
93 One Hundred and Fifty Cases of Spinal Anesthesia. (Lumbalanalgesie.) E. Veit.
94 Operative Treatment of Tuberculosis of the Mesenteric Glands. (Mesenterialdrüsentuberkulose.) W. Stark.
95 *Idiopathic Hemorrhage from the Kidneys. (Essentielle Nierenblutungen.) Steinthal.
96 Firearms Wounds in Peace. (Friedensschussverletzungen.) A. Hofmann.
97 Congenital Neurofibromatosis. H. Rimann.

76. **Suture of Arteries.**—This communication from Garré's clinic describes work in the suture of arteries and the transplantation of organs similar to that done by Carrel and Guthrie in this country, reports of which were published in THE JOURNAL, Nov. 25, 1905, page 1645; Nov. 17, 1906, page 1648, and in various other American journals during 1906.

87. **Injuries of Duodenum from Contusions.**—Meerwein reports a case and summarizes 64 that he has found in the literature. Among the symptoms noted were bilious vomiting soon after the accident, rigid abdominal walls, absence of an area of dulness over the liver, localized pain and shock. Fränkel lays great stress on the slow rise of the temperature from hour to hour. Pulse above 100, if hemorrhage can be excluded, speaks in favor of rupture of the intestines and incipient peritonitis. Circumscribed pain and tenderness are indications for exploratory laparotomy. An operation was done in 28 cases, but in 6 the perforation was not discovered, and in 7 the patients succumbed to shock, hemorrhage or complications. Injury of the duodenum may be followed by thrombosis of the portal vein. Notwithstanding the bad prognosis, treatment can be by operative measures only. Small holes in the duodenum may be sutured, but extensive injury requires resection of the intestine. It is not particularly difficult and proved successful in the case reported, as also in others on record. Transient glycosuria was observed in this case and also in several in the literature. There was no glycosuria in a case of traumatic laceration of the pancreas observed by Meerwein,

nor in 8 collected by Garré. Notwithstanding this, Meerwein is inclined to ascribe the glycosuria in the case of duodenal contusion to concomitant injury of the pancreas although no signs of fat necrosis were discovered.

88. **Prognosis of Operative Treatment of Spina Bifida.**—Boettcher reviews 64 cases of spina bifida, including 39 with operative treatment. In the latter group 25 of the patients have died and 13 succumbed to the effects of the operation. In 10 cases death was due to an intercurrent affection. The cause of the operative mortality was meningitis in 6 cases and postoperative hydrocephalus in 4. In 12 patients the cure was complete and permanent, with no tendency to recurrence. In most of these patients there was merely a meningocele without participation of the spinal cord. Whether the spinal cord is pathologic or not is the decisive factor in the outcome of treatment. The hope of curing existing paralysis by correcting the position of the spinal cord was not fulfilled in the cases under discussion. In case of existing paralysis the best that can be anticipated is that the paralysis will not become aggravated by the operative treatment. In 8 cases there were disturbances in innervation and in 2 the paralysis became worse afterward, while in the others it persisted unmodified. In 9 cases, that is, in 23 per cent., postoperative paralytic symptoms developed, some of them being severe. Three of the children with this postoperative paralysis are still living, all with incontinence, both of feces and urine, and paralysis of the legs.

89. **Peruvian Balsam in Treatment of Wounds.**—Suter writes from Schloffer's clinic at Innsbruck to laud the virtues of Peruvian balsam in treatment of fresh wounds of all kinds. He devotes 120 pages to his experiences with it, emphasizing the constant, smooth healing of recent accidental wounds, the absence of severe infectious phenomena and other advantages of this technic. It had been applied in 588 cases to the end of 1906 and gangrene was observed in only a single instance, the patient in this case having been run over by a railroad car. No serious disturbances on the part of the kidneys were ever observed. It seems to fasten the bacteria mechanically and thus render them harmless for the organism. His extensive tests failed to show much bactericidal power in the balsam, but the little it possesses, in combination with its mechanical anchoring of the germs, render it a powerful aid in treatment of fresh wounds. It also displays marked chemotactic power. The details of 112 cases are summarized. The fresh wound is not cleansed, not even rinsed with water and antiseptic solutions; the dirt around is washed off with benzin sometimes, but not always. Hanging scraps that are bound to lose their vitality are cut away, although it is possible with this treatment to be conservative to the extreme. The balsam is then poured or injected from a syringe into the wound, the aim being to fill every crevice. The dressing is not changed for several days unless there is an unusual amount of discharge. The balsam is renewed at the first and second change of dressings.

95. **Idiopathic Hemorrhage from the Kidney.**—Steinthal reports the case of a young woman with a slight apical tuberculous process who suddenly had a hemorrhage from the left kidney, recurring on the following days. The bladder was seen to be normal and the indigo-carmin test showed the right kidney working normally while the left seemed to be halting at times in its work. On suspicion of a tuberculous process in the kidney, it was exposed, but seemed to be normal except at one point, which was slightly congested. The kidney was restored to its place and tamponed, but after five days the patient complained of such pain in the region that the tampons were removed, when the hemorrhage from the kidney recurred; it was so violent and uncontrollable that the kidney was removed at once. During the following days a number of blood clots had to be removed from the bladder, but the further course was favorable and now, a year later, the patient is in excellent health. Examination of the extirpated kidney failed to reveal anything pathologic. He remarks that this makes the sixth case on record of idiopathic hemorrhage from the kidney in which nothing could be discovered to explain the hemorrhagic tendency.

Centralblatt für Chirurgie, Leipsic.

October 26, XXXIV, No. 43, pp. 1257-1280.

98 *Production of Typical Pain at McBurney's Point by Indirect Means. (Indirektes Hervorrufen des typischen Schmerzes an McBurney's Punkt.) T. Rovsing.

98. **Indirect Production of Typical Pain at McBurney's Point.**—Rovsing has found that pressure on the corresponding point on the left side will elicit the typical pain at McBurney's point in case of appendicitis, but not with other abdominal affections. His attention was attracted to this by two patients who entered his service the same day under the diagnosis of acute appendicitis. In each the right iliac fossa was so sensitive that he did not venture to test McBurney's point for fear of doing further injury, and the idea came to him to test the corresponding point on the left side. In one patient this elicited intense pain at McBurney's point, the intense pain occurring with lightning rapidity at this point when compression was applied to the middle of the descending colon. In the second patient, although the right side was so sensitive, compression of the left side did not elicit any pain at McBurney's point, even when vigorous pressure and massage were applied to the descending colon. The operation showed the appendix and vicinity entirely sound while the trouble was found to be a retroperitoneal effusion and perirenal phlegmon. Testing this indirect means of eliciting the pain at McBurney's point on more than 100 patients during the two years since has confirmed its differential value; it was never found unless there was some affection of the cecum or appendix.

Centralblatt für Gynäkologie, Leipsic.

October 26, XXXI, No. 43, pp. 1305-1352.

99 Correction of Double Organs in Genital Sphere. (Operative Vereinigung eines doppelten Uterus.) P. Strassmann.
100 Successful Treatment of Eclampsia in Puerperium According to Bumm's Technic. (Behandlung der Eklampsie im Wochenbett nach Bumm.) Strempel.

Deutsche medizinische Wochenschrift, Berlin.

October 24, XXXIII. No. 43, pp. 1769-1808.

101 *Chronic Diarrheas and Their Treatment. L. Kuttner.
102 Atoxyl in Syphilis and Frambesia. A. Neisser.
103 Genesis of Tuberculous Phthisis of the Lungs. C. Hart.
104 Intracellular Location of Tubercle Bacilli in Sputum and Its Diagnostic Importance. (Intrazelluläre Lagerung der Tuberkelbacillen im Sputum.) E. Löwenstein.
105 Oxyuris and Appendix. A. Hippius and J. Lewinson.
106 Acute Orchitis from Pyocyaneus Infection. M. Hirschberg.
107 Traumatic Inflammation and Stricture of Wharton's Duct. (Sialodochitis Warthoniana chronica.) Veckenstedt.
108 Laryngology and Otology Should Be United, Not Separated, in Teaching, at Congresses and in the Literature. A. Barth.
109 Treatment with Fibrolysin. Becker.

101. **Treatment of Chronic Diarrhea.**—Kuttner directs attention to a number of important points in the treatment of diarrhea. When the diarrhea is due to abuse of cathartics, opium is indicated, but in case of dyspeptic or stercoral diarrhea a purgative is required, and measures to dislodge helminths when the diarrhea is due to parasites. In nervous diarrhea, etc., the underlying affection requires treatment, as also the organ involved when the diarrhea is of reflex origin. If it is the result of too much tobacco or morphin they should be suppressed. Regulation of the diet is of great importance except in nervous diarrhea; in this form restriction of diet generally does more harm than good. It has been his experience that obstinate nervous diarrhea has frequently been checked with surprising rapidity when the patients were allowed to return to a mixed diet. General tonic measures are indicated to improve the general condition in all forms. The best basis for appropriate regulation of the diet is by systematic examination of the stools on a Schmidt test diet. As this or that article of food is seen to be imperfectly digested, the diet should be regulated accordingly. In fermentative processes the albumin, and in putrefactive processes the carbohydrates are concerned. If examination of the stools shows no mucus or putrefaction to suggest a catarrhal affection of the intestines, and there is nothing to indicate organic trouble, then the diet need not be too much restricted. If the discovery of scraps of connective tissue in the stools on the test diet shows some disturbance in the stomach functioning, then the amount of meat should be reduced, especially raw and smoked meats, and soft foods should be ordered—broths, soups, zwieback, etc. The

scraps of connective tissue are also a guide for further treatment. In case of deficient or absent secretion of gastric juice, hydrochloric acid should be given in large doses. He has never witnessed any better results from dog gastric juice than from hydrochloric acid alone. In case of motor insufficiency and with excessive mucus or hydrochloric acid production, it is advisable to rinse out the stomach. If the cause of the diarrhea is located in the large intestine, benefit will be derived from flushing the intestines. If there is evidence or only suspicion of disturbance in the secretion of the pancreas, pancreatic extract should be tried. Drugs to arrest the diarrhea should be given very cautiously. Examination of the stools is indispensable. Ochre-colored stools in adults suggest disturbances in the small intestines; green stools are encountered in jejunal diarrhea in adults; green stools in infants are due to an increased proportion of alkali in the upper sections of the intestine, according to Pfeiffer, or to the action of an oxidizing ferment. Fermenting stools generally indicate milder intestinal disturbances; they are usually light brown, foamy and have an acid or cheesy smell. Putrefying dark-colored stools, as a rule, indicate serious trouble, such as dysentery or carcinoma in the large intestine. A peculiar smell like glue was observed by Quincke and Roos in amebic diarrhea. Examination of the remains of the food in the stools after a Schmidt test diet is very instructive. Visible remains of muscle fiber indicate disturbance in intestinal digestion; larger scraps of connective tissue locate the disturbance in the stomach. Blood is rarely found in the stools in case of simple catarrhal conditions; it is observed more frequently in nervous stagnation. Macroscopic traces of pus always mean ulceration or perforation of the mucosa. A pure suppurative secretion does not occur in case of simple catarrh of the intestinal mucosa. Microscopic examination of the remains of muscle fiber is important. Large amounts with distinct striation especially when the muscle fibers are golden yellow (bilirubin) rather than brownish yellow (hydrobilirubin) point to catarrh of the small intestine. If nuclei are still perceptible in the scraps of muscle, some disturbance in pancreatic digestion may be surmised. The absence of nuclei is not conclusive as to normal conditions for putrefactive processes are liable to destroy the nuclei. Remains of starch suggest disturbances in the small intestine, and in pancreatic digestion. Isolated disturbances in the stomach and large intestine do not impair the digestion of fats. Affections of the pancreas are not inevitably followed by passage of a larger proportion of fats, yet the stools, in case of a pancreatic affection, generally show much less splitting of the fecal fats, consequently microscopic examination of the stools shows neutral fat. Chemical examination of the stools is too tedious for the general practitioner, although in dubious cases he might find the corrosive sublimate and fermentation tests instructive Purely functional diarrhea is rare. When pure mucus without admixture of fecal matter is observed, the catarrh is in the lower part of the large intestine, rectum, flexure or descending colon. Fluid fecal masses, mixed thoroughly with mucus, speak for the upper parts of the large intestine or the small intestine. The latter is indicated especially when there are flakes of mucus, cell nuclei, abundance of muscle fibers, free grains of starch, positive bilirubin test and fermentation. Acute catarrh of the large intestines induces diarrhea, but not catarrh of the small intestine, except when the upper part of the large intestine is involved. Sometimes a cancerous affection of the intestines begins with diarrhea. He has encountered a number of cases of rectal cancer in which the only symptom complained of was diarrhea. Such patients frequently attribute the onset of the diarrhea to some error in diet or exposure to cold. These facts suggest the importance of bearing cancer in mind when confronted with an obstinate diarrhea, especially if the patient is elderly and has previously had regular stools, and if there are pains and tenesmus. High rectal cancer can sometimes be detected by palpating as the patient stands, stooping forward, when it escapes detection otherwise.

Jahrbuch für Kinderheilkunde, Berlin.

October, LXVI, No. 4, pp. 365-502.

110 *Bacilli Carriers in Diphtheria. (Bazillenträger bei Diphtherie.) Hasenknopf and Rothe.

111 Experimental Study of Feeding with Raw and Boiled Milk. (Zwei Ziegenfutterungsversüche mit roher und gekochter Kuhmilch.) O. Bruckler.

112 *End Results of Operative and Conservative Treatment of Tuberculous Peritonitis in Children. (Dauerresultate bei op. und kons. Behandlung der Peritonitis tuberculosa im Kindesalter.) H. Schmid.

113 Embryonal Sarcomatous Glandular Tumor in the Kidney in Two Boys. (Embryonales Drüsensarkom der Niere.) K. Schneider.

110. Bacilli Carriers in Diphtheria.—Hasenknopf and Rothe report three cases of diphtheria in a military school. The patients were isolated at once and no epidemic followed. In order to determine whether or not there were any healthy bacilli carriers in the school, bacteriologic tests were made of secretions from the throat of every inmate of the institution—185 individuals. In 40 cases the findings were suspicious as bacilli resembling the diphtheria bacilli were found, but never the genuine diphtheria bacillus except in the three convalescing patients. In these convalescents virulent diphtheria bacilli were found up to the fourth, eighth and ninth week after recovery, and these strains were very virulent for guinea-pigs. The experiences related testify against the ubiquity of the diphtheria bacillus, while they confirm the importance of early and complete isolation of the patient until the diphtheria bacilli have disappeared from the secretions of nose and throat, on repeated examination.

112. Treatment of Tuberculous Peritonitis.—Schmid has encountered 42 cases of tuberculous peritonitis at Basle. In 3 cases the conditions were evidently not ripe for operative treatment when it was undertaken, a second laparotomy being required later. Several writers have warned against attempting operative treatment too early, that is, while the tubercle is still irritating the peritoneum. Operative treatment is contraindicated by a simultaneous tuberculous affection of the intestines or kidneys or advanced pulmonary lesions. Surgical tuberculosis is not a contraindication. Absolute bed rest is a powerful aid in conservative treatment. Two of the patients who had received conservative treatment required a laparotomy later on account of appendicitis, and the surgeon noted evidences of chronic peritonitis in one. In 14 there was no fever, and all these patients recovered. One patient, a girl of 14, was cured after a laparotomy, but five years later the tuberculous peritonitis flared up again. In another case there was recurrence after fifteen years. In 20 other cases the cure has been complete to date, the interval ranging from four to seven years in 5, and from ten to seventeen in others. Death in the 15 fatal cases occurred within a year of the first entrance into the hospital. The details of the different cases and treatment are given in full. In 14 there were signs of concomitant pleurisy and in 17 the glands in the neck or inguinal regions were enlarged. In 2 cases there was pronounced inflammatory protrusion of the umbilicus. The intestines are sometimes drawn up toward the right side by sclerotic retraction of the mesentery, causing Thomayer's sign, that is, dulness in the left half of the abdomen. This was observed in 5 cases. Sensitiveness to pressure on the part of the abdomen was noticed in 15 cases. There was complaint of pain in only 6 cases. Clay-colored stools occurred in only 2 cases, and in one case adhesions induced ileus. Seven died of the 9 patients with a tuberculous process in the intestines, but 23 of the 37 patients followed to date for three years and more are entirely cured, that is, more than 62 per cent. Experience seems to be teaching, he says, that there is no organ which is exposed to such injuries and infections as the peritoneum, and none that bears them better or triumphs over them so often. Terrien even preaches that of all the manifestations of tuberculosis chronic peritonitis is perhaps the most readily curable. The prognosis is better for children than adults.

Monatsschrift für Geb. und Gynäkologie, Berlin.

October, XXVI, No. 4, pp. 505-644.

114 *Pregnancy and Childbirth in Eight Patients with Heart Disease. (Gravidität und Geburten bei Herzkranken.) T. v. Wenczel.

115 *Appendicitis and Pregnancy. (Perityphlitis und Schwangerschaft.) A. Calmann.

116 Treatment of Childbirth in Contracted Pelvis. (Behandlung der Geburten bei engem Becken.) E. Scipiades. Concluded.

117 Clinical Importance of Retrodisplacement of Uterus. (Klinische Bedeutung der Rückwartslagerung des Gebärmutterkörpers.) A. Sippel.

114. **Pregnancy and Heart Disease.**—Wenczel does not object to the marriage of a young woman with heart disease if compensation is unimpaired and if there are no other serious complications, such as kidney disease or contracted pelvis, and if the young woman is in good circumstances. There is well-founded hope in such a case that childbearing will not be dangerous to life. Under other conditions he advises against it. If such a woman becomes pregnant the outlook is more favorable if she is young and if it is her first child; the myocardium is liable to be in better condition than in case of a multipara, although the latter has the advantage of easier delivery. The prognosis is most serious in an elderly primipara. Failing compensation should be combated by rest in bed and heart tonics, with artificial interruption of the pregnancy as the last resort. After the placenta has developed, in the third month, there is danger of considerable hemorrhage during this and the fourth month, the uterus not contracting and retracting regularly at this stage of pregnancy, and the hemorrhage is liable to be severe, the placenta clinging tenaciously to the uterine wall. Beginning with the fifth month, the conditions are more like that of normal term delivery and the hemorrhage is generally less. Much impaired compensation is noted during the first half of pregnancy in women whose heart functionated defectively in previous pregnancies, while with well-compensated heart disease the disturbing symptoms do not appear generally until the second half of pregnancy. He describes the details of 8 cases of severe heart disease in pregnant women. In 4 cases the women had suffered for years from serious heart trouble, and they all succumbed. Two women with mitral insufficiency passed safely through the pregnancy. One was delivered hastily nearly at term with the metreurynter on account of the menacing heart symptoms which had developed during the second half of the pregnancy. Relief was apparent at once. The other patient was spontaneously delivered, caffein and digitalis being given regularly during labor on account of the bad pulse. Both these patients recovered compensation and left the clinic in nine and ten days with living children. Mitral stenosis seems to be exceptionally dangerous; none of his patients with it recovered, and the patient with aortic insufficiency also succumbed.

115. **Appendicitis and Pregnancy.**—Calmann remarks that appendicitis is exceptionally grave for the fetus; it either succumbs to infection or to the interruption of the pregnancy. There is also danger for the mother in the close vicinity of the uterus in a peculiarly receptive condition. Septic endometritis, abscesses and perforation are liable to be the result. He reports three cases; in the first the pregnancy continued undisturbed by evacuation of a pyoappendix at the fifth month. In the second case the pregnancy was interrupted at the seventh month on account of beginning peritonitis from appendicitis. In the third, an operation for recurring appendicitis did not interfere with the pregnancy at the seventh month. Appendicitis during the puerperium has the same indications as at other times, with the single exception that the appendicitis may interfere with the involution of the uterus, the natural process being suspended under its influence. He reports two cases of this kind, the persistence of the lack of involution compelling appendectomy, after which the natural process proceeded normally.

Münchener medizinische Wochenschrift.

October 22, LIV, No. 43, pp. 2121-2168.

118 Experimental Pharmacology. B. Naunyn.
119 Treatment of Dysmenorrhea by Treatment of Mammæ. (Behandlung der Dysmenorrhoe von den Brüsten aus.) H. Freund.
120 *Treatment of Inoperable Tumors with Suction Hyperemia. (Behandlung inoperabler Tumoren mit künstlicher Hyperämie.) C. Ritter.
121 Experiences with Marmorek's Antituberculosis Serum. G. Schenker.
122 Plastic Operation for Deformities of Outer Ear. (Zur Plastik der Missbildungen der Ohrmuschel.) W. Uffenorde.
123 *Treatment of Typhoid Bacilli Carriers. (Typhusbazillenträger). Dehler.
124 Almost Total Necrosis of Parenchyma of Liver in Syphilitic Interstitial Hepatitis. E. Melchlor.
125 Fatal Mercurial Poisoning. (Quecksilbervergiftung.) W. Bartsch.
126 Determination of Blood in the Feces. (Blutnachweis in den Fäzes.) H. F. Grünwald.
127 Disinfection of Hands with Special Regard to Heusner's Iodin-Benzin Method. (Händedesinfektion.) M. Grasmann.

120. **Treatment of Inoperable Sarcoma with Suction Hyperemia.**—Ritter describes the case of a young mason with an inoperable sarcoma in the neck and shoulder region. The sarcoma was large, unusually vascular and gorged with blood while it had grown firm into the parts below. Part was excised and a large cupping glass was applied daily for suction hyperemia. In 17 days the tumor had grown much smaller and by the end of the month not a trace was left, both shoulders apparently normally symmetrical. The patient was instructed to return for further treatment in case of suspicion of recurrence, but nothing has been heard or seen of him during the year since. The case is remarkable further, Ritter says, in that the tumor retrogressed without any tendency to softening, necrosis and expulsion of detritus. In another case preliminary excision revealed necrosis of the sarcoma tissue, and he calls attention to the frequency of necrosis in tumors, so that it need not be regarded as the effect of whatever treatment may be instituted.

123. **Treatment of Typhoid Bacilli Carriers.**—Dehler gives the later history of the patient who proved to be a constant typhoid bacilli carrier, and thus a menace to the institution, on whom he operated last year solely for the purpose of cleansing out the focus of infection in the gall bladder. There were no symptoms on the part of the biliary apparatus. He has since operated in the same way on a second patient and for the same purpose. In this latter case a few small gallstones were found in the gall bladder. Both patients seem to be in better condition than previously and their stools are now free from typhoid bacilli. They are both chronically insane. His first communication on the subject was summarized in these columns, July 6, page 94.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTITIONERS' VISITING LIST FOR 1908. A pocket-sized book containing data and ruled blanks for memoranda and for recording details of practice. Weekly, monthly, and 30-patient perpetual editions, containing 32 pages of data and 160 pages of classified blanks. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and calendar for two years. Price, postpaid, $1.25. Thumb letter index, 25 cents extra. Philadelphia: Lea Brothers & Co., 1907.

THE MEDICAL RECORD VISITING LIST FOR 1908. A pocket-sized book containing important data and ruled blanks for memoranda and details of practice. Bound in flexible leather with flap pocket and pencil. Price, $1.25 to $4.00 for the various editions, 30 patients a week, 60 patients a week, dated or undated, etc. New York: William Wood & Co., 1907.

TEXT-BOOK OF ORGANIC CHEMISTRY. By G. V. Bunge, M.D., Professor of Physiological Chemistry in the University of Basel. Translated, with additions by R. H. Aders Plimmer, D.Sc. (Lond.), Assistant Professor of Physiologic Chemistry, University College, London. Cloth. Pp. 260. New York: Longmans, Green & Co., 1907.

MODERN CLINICAL MEDICINE, DISEASES OF THE NERVOUS SYSTEM. Edited by Archibald Church, M.D., Professor of Nervous and Mental Diseases and Medical Jurisprudence, Northwestern University, Chicago. Pp. 1205, with 200 illustrations. Cloth. Price $5.00. New York: D. Appleton & Co., 1907.

A TEXT-BOOK OF PRACTICAL GYNECOLOGY. By D. Tod Gilliam, M.D., Emeritus Professor of Gynecology in Starling-Ohio Medical College. Second Revised Edition. Pp. 642, with 364 illustrations. Cloth. Price $4.50. Philadelphia: F. A. Davis Co., 1907.

LUKE THE PHYSICIAN. By Adolf Harnack, D.D., Professor of Church History in the University of Berlin. Translated by J. R. Wilkinson, M.A. The Crown Theological Library. Pp. 231. Cloth. Price, $1.50. New York: G. P. Putnam's Sons, 1907.

SYPHILIS IN THE ARMY. By Major H. C. French, Author of "Action of Drugs in Syphilis." Cloth. Pp. 126. Price, $1.50. London: John Bale, Sons & Danielsson, Ltd., 1907.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Edited by Richard H. Harte, M.D. Volume 25. Pp. 260. Philadelphia: William J. Dornan, 1907.

TRACHOMA, ITS CHARACTER AND EFFECTS. By Passed Assistant Surgeons, T. Clark and J. W. Schereschewsky. Washington: Government Printing Office, 1907.

TRANSACTIONS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Volume 29. Pp. 268. Published by the Association, 1907.

DIRECTORY OF LIBRARIES IN THE UNITED STATES AND CANADA. Fifth Edition. Minneapolis: H. W. Wilson Co., 1907.

PAPERS ON GENITOURINARY SURGERY. By Arthur T. Cabot, M.D. Pp. 48. Boston: David Clapp & Son, 1907.